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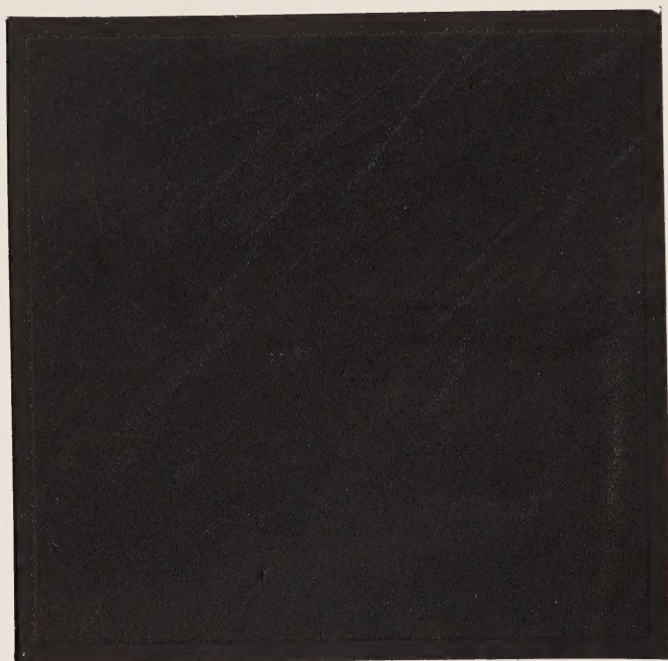
Ontario's Trade in Services --

An Examination of Selected Service Sector
Industries and Relevant Export Assistance
Programs

Service Sector Secretariat

MINISTRY OF INDUSTRY,
TRADE AND
TECHNOLOGY
ONTARIO





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Service Sector Secretariat

**Small Business, Services and Capital Projects
Ministry of Industry, Trade and Technology**

December, 1987



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ONTARIO'S TRADE IN SERVICES

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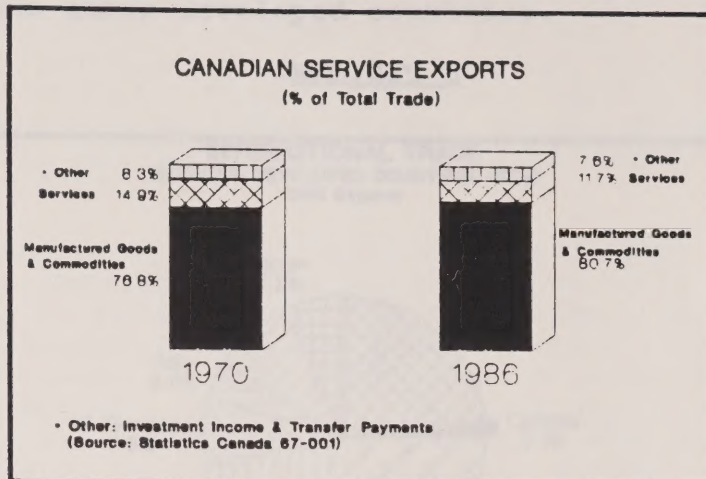
INTRODUCTION

Until recently, the service sector (see Appendix 1) has been considered of secondary importance in the economy. While the manufacture of goods has long been considered productive, creating products of lasting value and contributing to the wealth creation process in the economy, services are often still considered unproductive. Services, however, do constitute a significant and increasing percentage of world trade. According to IMF Statistics, service exports increased from \$673.4 billion (27%) in 1980, to \$721.3 billion (29%) in 1985. In 1985 Developed Country service exports accounted for \$569 billion or 31.7% of total Developed Country exports.

The federal and provincial governments, academia, and private sector groups have only recently begun to recognize the significance of the service sector. This growing awareness is based on undisputable fact. The service sector has been the largest and fastest growing segment of the Canadian economy since 1940. For Canada as a whole, service sector employment has increased from about 40% of the labour force in 1945 to about 75% in 1986. The service sector accounted for 72% of the Canada's Gross Domestic Product (GDP) in 1986, while manufacturing represented approximately 19% and the primary sector 9%. In 1986, for Ontario, the service sector accounted for 71% of GDP and employed over 70% of provincial residents.

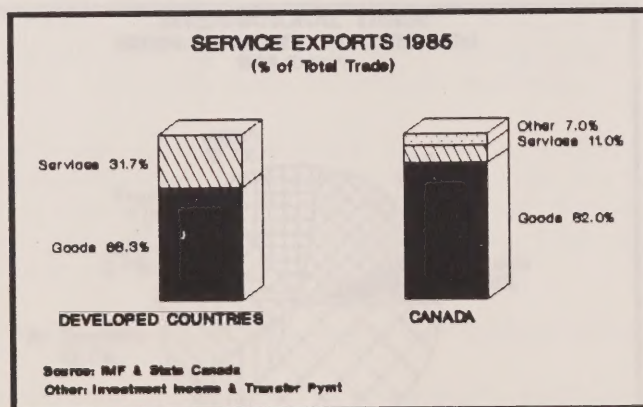
However, despite the importance of the service sector in the domestic economy, Canada's and Ontario's international trade orientation remains concentrated on goods. As a result, both Canada and Ontario continue to experience significant balance of payment deficits in services. In 1986 approximately 81% of Canada's exports, worth \$121 billion, were goods. During the same year tradeable services accounted for 12% (\$17 billion) of Canada's exports. As Exhibit 1 shows, this figure is down substantially from 1970 when service exports represented 14.9% of total Canadian exports.

EXHIBIT 1



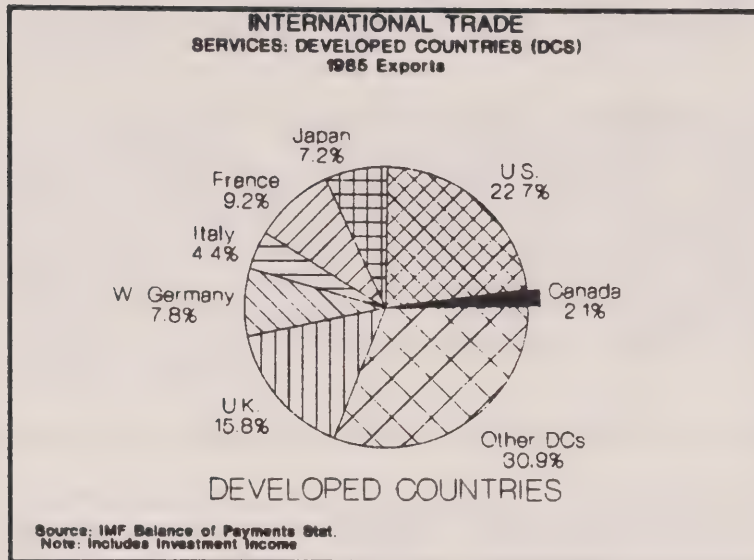
In 1986, imports of services reached approximately \$21.0 billion, producing a services trade deficit of over \$3.5 billion. In 1985, the International Monetary Fund reported that, for developed countries as a whole, service exports were approximately \$569 billion (31% of total trade) compared to goods exports which were \$1,228 (U.S.) billion (69% of total trade).

EXHIBIT 2



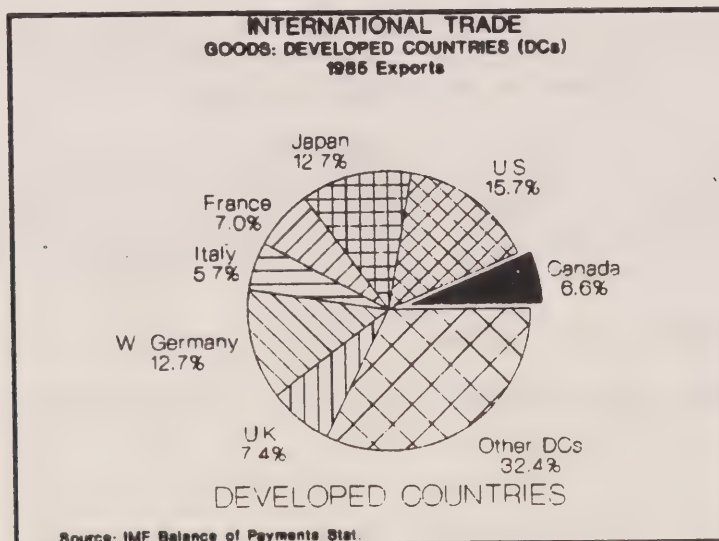
As Exhibit 3 illustrates, Canada accounts for a significantly smaller share of internationally traded services than other developed countries.

EXHIBIT 3



When export of goods is considered, however, Canada's share of international trade more than triples.

EXHIBIT 4



Canada's situation of a strong domestic service sector coupled with a weak export orientation is an anomaly in international trade. The U.S., which has experienced record trade deficits over the past few years, has consistently maintained a trade in service surplus. Given the growing consensus that suggests all service industries have, to a greater or lesser extent, export trade potential, why has Canada consistently recorded a trade in services deficit?

Canada and Ontario both have well developed service sectors and, therefore, have the potential to be larger participants in international service trade. Given this, policy and program developers face two major challenges in designing programs to enhance the export potential of service industries. First, to determine why this trade imbalance exists and second, to determine what governments can do to assist in the trade promotion activities of service sector industries.

The paper is organized in the following manner:

Chapter 1 provides an introduction to the scope and specific objectives of the paper and includes definitions used and problems encountered in undertaking this study.

Chapter 2 provides an overview of the major export markets for Ontario services. Additionally, this chapter examines the participation, problems and potential in export markets of some selected service industries. The industries reviewed fall into three major service groups: Business Services; Information Technology and Communications Industries; and Public Services.

Chapter 3 provides a review and analysis of the existing federal and Ontario export assistance programs directed, in whole or in part, towards the service sector.

Chapter 4 summarizes the findings of this study and provides recommendations for the evaluation of existing programs and the design and development of future assistance programs directed at enhancing the export potential of service industries.

Appendix I provides a list of service industries.

Appendix II provides a list of tradeable services by SIC code.

Appendix III provides detailed industry profiles.

Appendix IV provides detailed descriptions of existing programs which are open to service exporters.

Appendix V provides a list of Business Service definitions used by Statistics Canada.

CHAPTER 1

OBJECTIVES & SCOPE

OBJECTIVES

The objectives of this paper are:

- I. To determine the major markets for Ontario service exports and identify other potential markets for Ontario services.
- II. To identify the major constraints facing service exporters in penetrating and capturing export markets.
- III. To provide a comparative analysis of existing government assistance programs with actual service exports to determine the fit between the two.
- IV. To identify the role federal and Ontario agencies play in promoting Ontario service exports.
- V. To provide recommendations for the evaluation of existing programs and the design and implementation of future export assistance programs.

DEFINITIONS

Any analysis of trade in services is complicated by the fact that no internationally accepted standard definition of tradeable services exists. Definitional problems have arisen within the GATT over the distinction between trade and investment in services. Additional problems arise with the increasing overlap of goods and service producers and the close relationship between goods production and associated services.

In order to assist in the development of a statistical base for tradeable services, the GATT Secretariat has categorized the relationship of goods to services under the following four headings:

1. Services embodied in goods (e.g. computer tapes).
2. Services complementary to trade in goods (e.g. shipping).
3. Services that substitute for trade in goods (e.g. franchising).
4. Services that are traded without relationship to goods (e.g. banking).

For the purpose of this paper, tradeable services fall within all four GATT categories and involve transactions which occur when domestic factors receive income from non-residents in exchange for their services.

SCOPE

The service sector includes a wide variety of industries, many of which are involved in exporting. An examination of the entire sector's export activity and an exhaustive review of existing export assistance programs is beyond the scope of this paper. To meet the objectives of this study this paper confines its examination to a limited set of service industries and an overview of export assistance programs that offer support to service industries.

The industries examined in this report represent three major service sector groups: Business and Professional Services, Information Technology and Communications Industries, and Public Services. The industries were chosen based on three criteria:

1. their strong and vibrant position in the domestic market;
2. their exposure to exporting; and
3. the availability of statistical and other analytical information about the particular industry.

LIMITATIONS

As was noted in the Introduction, Canada's international trade orientation remains concentrated on goods. This results in a variety of problems when examining trade in services.

First and foremost is the problem of availability and reliability of statistical data on Ontario and Canadian service exports. Statistics Canada provides some information in their Quarterly National Accounts publication and in occasional surveys. This data, however, is highly aggregated. Moreover, in some cases data includes receipts for services and goods in the same figures. Additionally, available data is often 4 - 5 years old. The service sector is very dynamic and much of this data may be out of date. Finally, much of the data on service sector activity is concerned with domestic activities of service industries and deals only peripherally with their exports. Such export data as does exist, is not readily comparable internationally.

Second, is that many of the export assistance programs do not deal specifically with the service sector. As such, it is often difficult to determine the dollar expenditures directed at services, the percentage of total applicants accounted for by service companies, and the success rate of service companies who have sought export assistance financing. Each program reviewed was able to provide, to a greater or lesser extent, global budget figures for the program. Few, however, were able to provide disaggregated figures on an industry basis. This hampers the evaluation of export programs.

Third, is the relatively limited appreciation by program delivery administrators of the potential to use existing programs for service export assistance. In addition, many service sector exporters are unaware of government resources that could be placed at their disposal.

CHAPTER 2

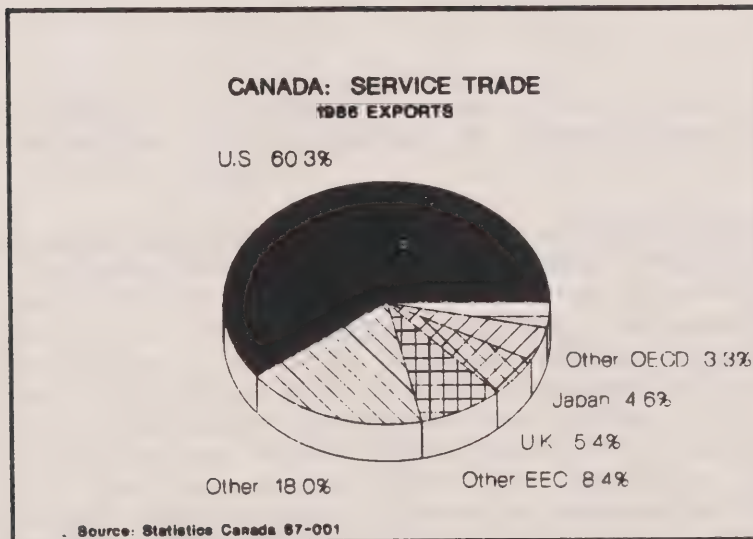
EXPORT MARKETS AND TRENDS

MARKETS

Canada's service exports were approximately \$16.0 billion in 1985 and represented 2.1% of total Developed Country service exports.

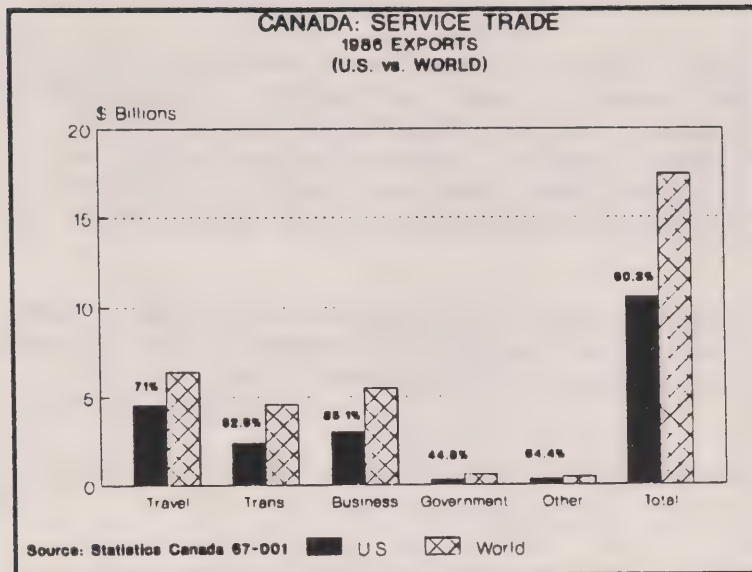
The United States is the primary market for Canadian goods and services. Canada and the United States have the largest two way trade flow in the world. In 1986, trade between Canada and the U.S. totalled nearly \$200 billion. In terms of services, the U.S. is the destination of 60.3% (\$10.5 billion) of Canadian exports and the source of 61.5% (\$12.9 billion) of Canadian imports. (See Exhibit 5).

EXHIBIT 5



In 1986, approximately 71% of travel exports, 52.6% of transportation exports, 55.5% of business exports, 44.8% of government transactions, and 64.4% of other service transactions were destined for the United States. (See Exhibit 6).

EXHIBIT 6



Close physical proximity, ease of entry and few cultural barriers make the United States an ideal first market for many Canadian service firms.

Traditional markets for high value-added technology-based services include the U.S. and other OECD countries; emerging markets include the newly industrialized countries in both South America and Asia; and potential markets include the Eastern Bloc nations and China. A major problem facing Ontario exporters in emerging and potential markets is incompatibility of technology. Additional problems are payment difficulties and cultural differences which often call for prior knowledge of the country, its people, and distribution channels. Many smaller companies have neither the financial resources nor the expertise to support an international marketing effort.

For traditionally traded services, such as management consulting and engineering services, existing and lucrative markets include the Middle East (although there has been a downturn in this area) and the developing nations. The Pacific Rim nations and China also hold some promise for these services.

The main purchasers of Public Services will continue to be the developing nations.

PROFILES

Appendix III provides profiles of seven service industries: Consulting Engineers, Education, Health Care, Management Consultants, Scientific and Technical Services, Software Technology and Telecommunications. These industries represent three major service groups: Business and Professional Services; Information Technology and Communications Industries; and Public Services.

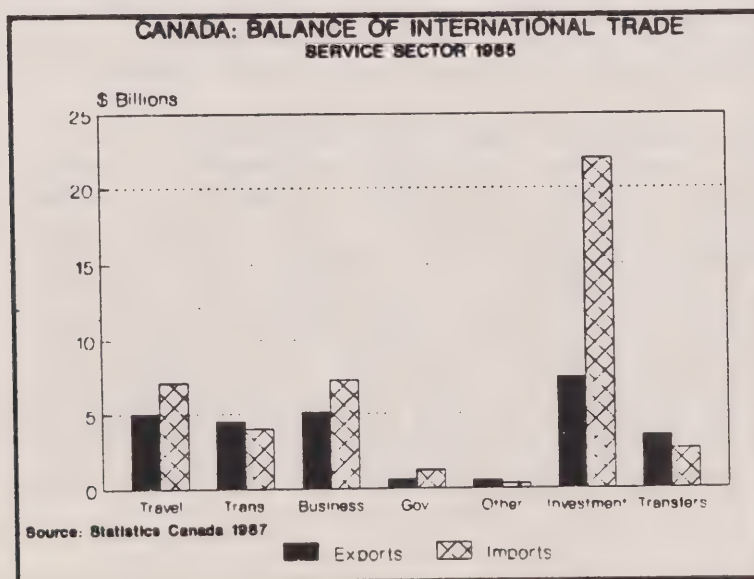
The seven industries chosen for this report are indicative of the areas in which Ontario service companies have export potential. This is not, however, an exhaustive list of potential service exports.

Note: See Appendix II for a listing of tradeable service industries.

KEY TRENDS

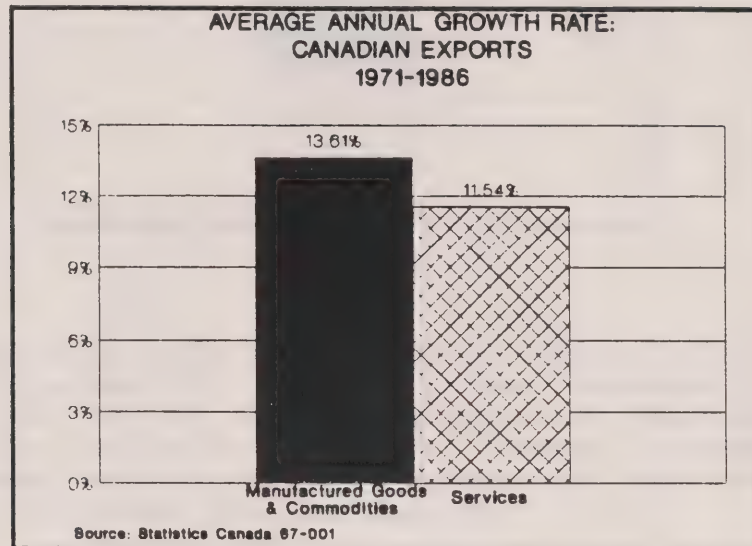
In 1985 Canada experienced negative trade balances on virtually all service accounts except for small surpluses on Transfer Payments and Other Services Accounts. (See Exhibit 7).

EXHIBIT 7



This is consistent with previous years. As Exhibit 8 illustrates, between 1971 and 1986, the service sector experienced a slower export growth rate than that of manufactured commodities and goods sector.

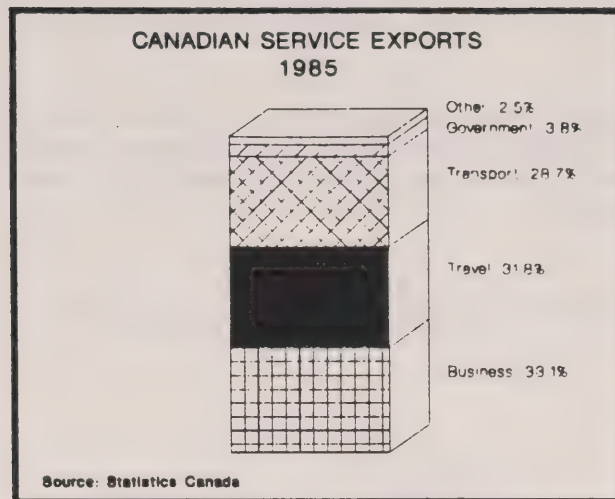
EXHIBIT 8



Business Services: - In 1984, international trade in Business Services totalled \$142 billion (U.S.) or 22% of total global trade in services. This was second only to investment income in terms of volume of trade. Canada's export share of global trade in Business Services was 2% or \$3.4 billion (U.S.) while Ontario's export share was 1% or \$1.4 billion (U.S.).

In 1985, trade in Business Services accounted for the largest component of Canada's trade in services. (See Exhibit 9). (For balance of payments purposes, Statistics Canada defines Business Services as: Consulting and Other Professional Services, Transportation Related Services; Management and Administrative Services; Research and Development; Commissions; Royalties, Patents and Trademarks; Films and Broadcasting; Advertising and Promotional Services; Financial Services; Computer Services; Equipment Rentals; Franchises and Similar Rights; Communications; Refining and Processing Services; Tooling and Other Automotive Changes; and Other Services. For a more detailed description of these categories, see Appendix V.)

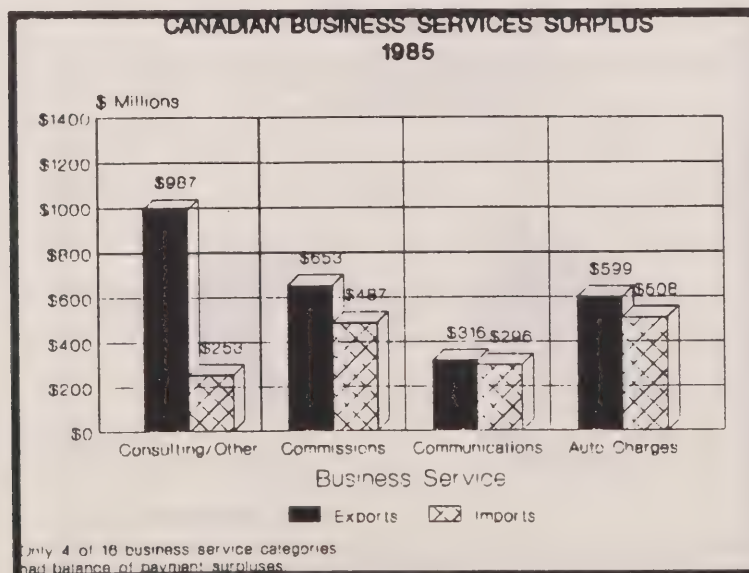
EXHIBIT 9



Business Services were also the major factor in Canada's tradeable services deficit. While Business Services accounted for 33% (\$5.2 billion) of service exports, they accounted for 36% (\$7.6 billion) of service imports. However, between 1984 and 1985 Business Service exports increased by 15% compared to a 13% increase in Business Service imports.

Out of 16 business service categories identified by Statistics Canada, only four had balance of payment surpluses. These areas included: Consulting and Other Professional Services (+\$734 million); Commissions (+\$166 million); Communications (+\$20 million); and Tooling and Other Automotive Charges (+\$91 million). (See Exhibit 10).

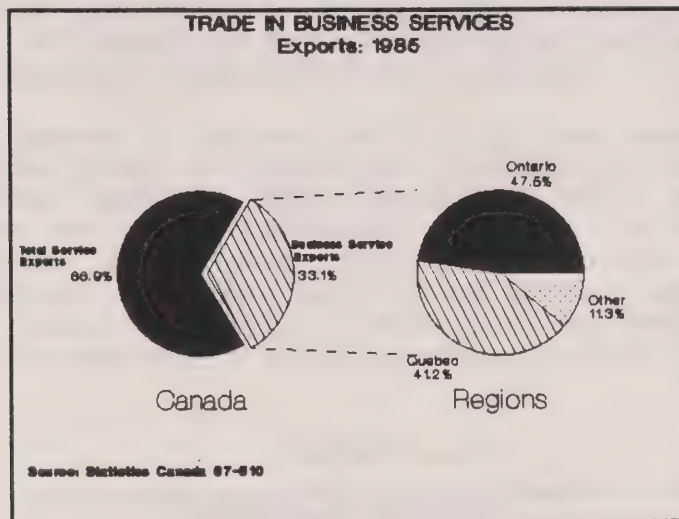
EXHIBIT 10



Statistics Canada is in the process of developing disaggregated provincial data based on head office surveys. Currently, only disaggregated figures for Ontario have been released.

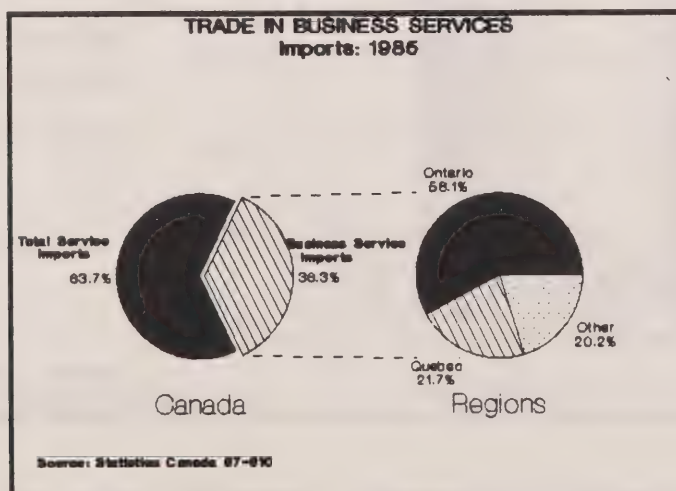
On a broad level, Ontario and Quebec are Canada's leading exporters of business services. In 1985, Ontario accounted for 47.5% (\$2.5 billion) of Canadian business service exports, and Quebec accounted for 41.2% (\$2.1 billion). (See Exhibit 11).

EXHIBIT 11



However, unlike Quebec, which in 1985 had a substantial surplus in business service trade of \$443 million, Ontario incurred a net deficit of \$1.9 billion. Ontario accounted for 58.1% (\$4.4 billion) of Canadian imports of business services while Quebec accounted for 21.7% (\$1.7 billion). (See Exhibit 12).

EXHIBIT 12

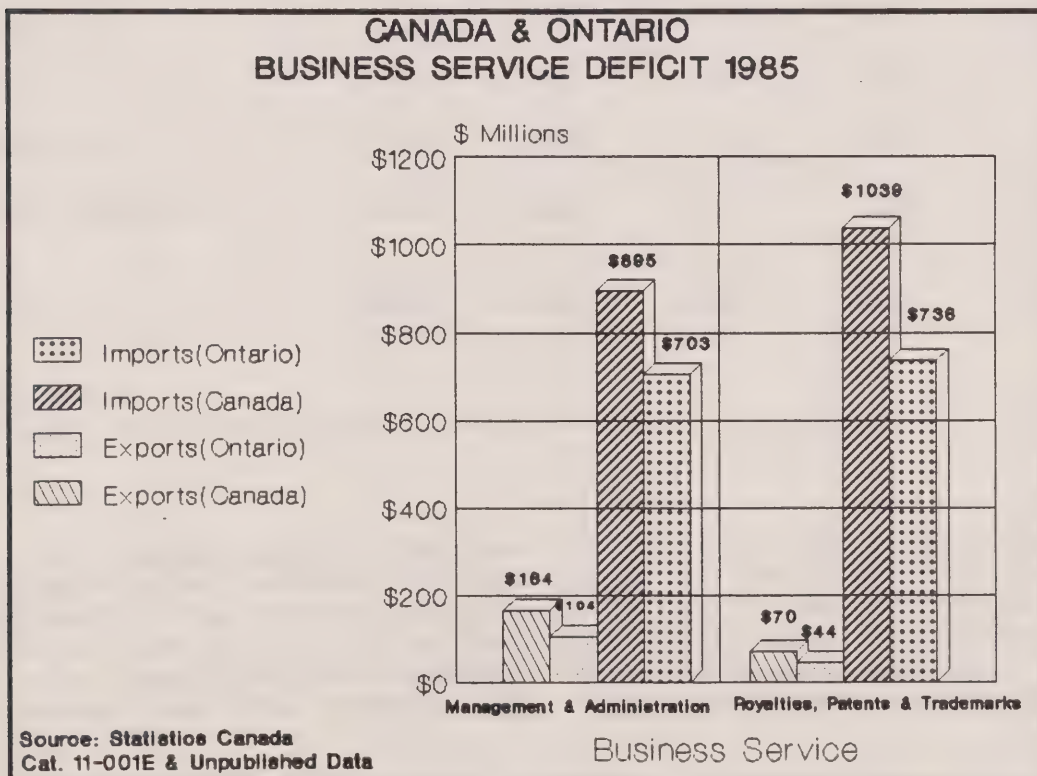


On a more focused level, those areas in which Ontario had a balance of payments surplus in 1985 included: Consulting and Other Professional Services (+\$100 million); Transportation and Related Services (+\$195 million); Communications (+\$38 million); Tooling and Other Automotive Charges (+\$91 million) and Computer Services (+\$5 million).

Ontario accounted for 20% of Canadian Consulting and Other Professional Service exports, 39% of Canadian Transportation and Related Service exports, 24% of Canadian Communications Service exports, 100% of Canadian Tooling and Other Automotive Charges, and 54% of Canadian Computer Service exports.

In 1985, Canada's largest deficit in Business Services was recorded in the areas of Royalties, Patents & Trademarks (-\$969 million) and Management & Administration (-\$731 million). Together these two areas accounted for over 70% of the total deficit recorded on Business Services. As would be expected, Ontario's Business Services deficit is largely accounted for by the same two areas, Royalties, Patents & Trademarks (-\$692 million) and Management & Administration (-\$599 million). (See Exhibit 13).

EXHIBIT 13



It is interesting to note that over 2/3 of Business Service imports were accounted for by Canadian subsidiaries of foreign firms. Eighty percent of these imports were from affiliated companies. On the other hand, the majority of Business Service exports were carried out with non-affiliate firms, largely linked to Consulting and Other Professional Services. This implies that it is Canadian affiliates of foreign/multinational enterprises importing the majority of foreign Business Services into Canada while it is unaffiliated Canadian companies which are the most successful exporters of Canadian business services.

In 1986, the major markets for Canada's Business Services were the U.S. - 57%, U.K. - 4%, other EEC countries - 7%, Japan - 3% and developing oil countries - 26%. (See Exhibit 14).

EXHIBIT 14

PERCENTAGE OF BUSINESS SERVICE EXPORTS
BY MARKET

	<u>86*</u>	<u>84</u>	<u>81</u>	<u>77</u>	<u>73</u>	<u>69</u>
U.S.	57%	56%	51%	54%	56%	55%
U.K.	4%	5%	7%	9%	11%	11%
OTHER EEC	7%	7%	8%	11%	11%	4%
JAPAN	3%	2%	3%	3%	4%	-
OTHER OECD	3%	3%	4%	5%	6%	16%
OTHER COUNTRIES	<u>26%</u>	<u>27%</u>	<u>27%</u>	<u>18%</u>	<u>12%</u>	<u>14%</u>
TOTAL	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>

*Estimates

(Source: Statscan 67-001, 1986)

The fastest growing markets for Business Services include the developing nations and are primarily found in South Asia, Southeast Asia, Central America, and the Caribbean. Areas where Canada is gaining a strong international reputation include Consulting Engineering, Scientific and Technical Services, and Environmental and Urban Management and Planning.

Emerging markets for Canada's Business Services include Japan, China, Africa and the newly industrialized countries of South America.

Of significance is the fact that although 78% of Canada's merchandise exports went to the U.S. in 1986, only 60% of Business Service exports were destined for the U.S. market. There has been considerable growth in the trade of Business Services to countries outside the OECD and a decline in the importance of the EEC markets.

Information Technology - The extent of Ontario's trade in information technology services is significant. In areas such as Telecommunications and Software Technology, Development and Consulting, Ontario has a strong international reputation. Currently, world trends indicate a general shift towards privatization and deregulation of the telecommunications industry, providing opportunities for increased industry employment and growth.

Given the dynamic changes taking place in information technology industries, difficulties arise in determining the size and scope of export markets.

1. There is significant vertical and horizontal integration in the industry. Isolating the various components to arrive at disaggregated export figures is not possible with current data. For example, the goods and services components of customized computer systems exports are rarely recorded.
2. The service component of this industry is often embodied within goods and is included in goods trade statistics. For example, the export of a software program embodied in a floppy disc.
3. The dissemination of information services may cross borders without purpose and be "purchased" implicitly. For example, Ontario exports of satellite communicated television programs on U.S. cable systems.
4. The information technology industry is particularly dynamic and statistics, when available, often lag behind actual performance.

Export success in the information technology industry is dependent on the ability to provide advanced, high value-added products and services. Many small Canadian information technology companies are successfully targeting niche markets in the U.S. and abroad. Traditionally, the major markets for Ontario information technology exports have been the U.S., other

OECD countries, and, to a lesser extent, the developing countries. Given the proximity, size and technological compatibility of the U.S. market, it is likely that the U.S. will remain the primary export destination for Canadian information technology products and services in the foreseeable future. For example, close to 80% of Canadian software exports currently go to the U.S. Canadian 1987 software revenues are forecasted at \$2.6 billion or approximately 5% of the world software market.

Public Services - The international market for Public Services from both public and private sources is significant. For example, government expenditures on education and health care services in most economies are a significant portion of total government budgets.

According to World Bank data, developed countries spend 6% of their GDP on education, developing nations 4% and Eastern European countries 5%. For health care services the corresponding figures are 11%, 3% and 5% respectively.

In 1985, the World Bank spent some \$900 million (U.S.) on educational projects in developing countries. This represented about 6.4% of its entire lending budget. In 1986, the World Bank provided about \$850 million (U.S.) for educational projects in developing countries and was involved in co-financing educational expenditures totalling \$3.4 billion (U.S.). It is estimated that close to 80% of external aid from U.N. agencies and individual countries goes toward technical assistance such as that provided by teachers, experts and student fellowships.

Ontario is well placed to take advantage of this market potential. It has a highly developed educational infrastructure with strong management expertise. Moreover, Canada's education, health and other Public Service institutions are well respected in the developing world.

Both public and private sector service organizations have the potential to export education (including skills training, retraining, developmental education), health services and systems, public utilities, planning and management, infrastructure planning and management among other public services. These services are generally purchased by governments or government organizations through bilateral and multilateral aid programs. Access to these export markets is primarily through the development of contacts and the establishment of a credible professional presence with the host governments and/or the sponsoring agencies.

It is difficult to determine market penetration of Ontario exporters in this sector or to define emerging and potential

markets. Data on existing exports tends to be collected on a project by project and country by country basis. New opportunities tend to emerge on the former basis. It is safe to assume, however, that the least developed countries and the newly industrialized countries would hold promise for Ontario exports of public services.

TRADE CONSTRAINTS

The most significant trade constraint facing service exporters is the imposition of non-tariff barriers to trade. (Industry-specific non-tariff barriers are itemized in Appendix 3.) Until some form of international agreement or understanding is developed to encompass services trade, these barriers will continue to grow and to impede its expansion.

For high value added information technology services the major constraints are the degree of competition from other industrialized nations, the level of compatibility of technology and the need for continuous new product development.

In traditional service exports (such as consulting engineering and management consulting services) the main constraint facing Ontario exporters is the relatively small size of service companies and the associated lack of financial and managerial expertise.

A major constraint facing all service exporters is their inability to finance the development phase of their export initiatives.

CHAPTER 3

EXPORT ASSISTANCE PROGRAMS/SERVICES

BACKGROUND

Both Ontario and the federal government have supported public and private sector export initiatives through various forms of assistance such as loans, grants, subsidies and technical and professional support. This support however, has historically been targeted at the agricultural, resource and manufacturing sectors with little attention paid to the service sector.

This chapter examines the key Ontario and federal government programs that support exports by the service sector. The purpose of examining these programs in the context of this study is:

- . to identify the main programs and services that are open to service sector exporters;
- . to provide information on where the programs are meeting, or failing to meet, the perceived needs of the service sector in terms of type of assistance offered, market coverage, scope of assistance, and criteria for receiving assistance.

Exhibit 15 provides an overview of key federal and Ontario export assistance programs for which service companies are eligible. For a detailed description of the programs examined refer to Appendix IV.

One consistent observation from the the interviews conducted for this study was that, given the limited resources of export assistance programs, the programs do provide support to a significant cross-section of the client group(s) they were designed to assist.

PROGRAM SUMMARY

This study has examined 9 distinct federal/provincial government departments, ministries and/or agencies administering 17 separate export assistance programs/services (see Exhibit 15). Of these programs, only the Ontario International Corporation (OIC) dedicates its entire budget to assisting service sector exports. The remainder provide a relatively minor portion of their program expenditures to the service sector. The actual expenditure on the sector depends on the number of companies applying to the respective programs. Program administrators do not earmark specific amounts for service sector companies, nor do they actively pursue applications from the service sector.

In general, most of the funded programs provide some combination of grant and technical assistance as opposed to straight loans or equity type assistance. The Ontario Development Corporation (ODC), the Export Development Corporation (EDC), and the Federal Business Development Bank (FBDB) provide support through loan or loan guarantee vehicles. Canadian International Development Agency (CIDA) programs are geared to assist exporters targeting the developing countries.

Most of the program/services broadly define "markets served" as global in scope. However, the major markets served in terms of program/service dollar volume are the U.S., China, Asia and the Pacific Rim. There is also significant support for companies exporting services to the developing countries in Africa and South America.

All of the financial programs identified, save those of ODC and OIC, provide support in conjunction with private sector financing. Almost half of the assistance programs will not provide support if applicants have, or can get, financial and/or technical assistance from another public source.

Over 40% of the funding programs do not entertain applications from companies that have been granted assistance the previous year. This may be particularly onerous for services. One-time funding will allow a service company to scout a potential market but does not provide it with the resources to develop a credible presence. This is particularly true in those markets where the major purchasers of services are governments or where international aid programs are instrumental in providing the funds to purchase the services. In addition, lengthy processing time, bureaucratic "red tape", and one-time funding may work together to discourage small companies from applying to various programs and pursuing international contracts.

EXHIBIT 15

SUMMARY OF EXPORT ASSISTANCE PROGRAMS AND SERVICES

<u>Dept/Ministry/ Agency</u>	<u>Program/Service</u>	<u>Type of Assistance</u>	<u>Market Served</u>	<u>Special Eligibility Criteria</u>	<u>Renewability of Assistance</u>
Ministry of Industry Trade & Technology (MITT)	New Exporters to Border States (NEBs)	Financial/Tech- nical	US	yes	no
	Consulting & Technical Advice	Technical	US/Europe/Pacific Rim	yes	yes
	Trade Expansion Fund	Financial	Non-US	yes	yes
	Ontario International Marketing Intern Program	Financial	Global	yes	yes
Ontario Development Corporation (ODC)	Export Support Program	Financial	Global	yes	yes
	1. International Project Fund	Financial	Global	yes	yes
Ontario International Corporation (OIC)	2. Other Technical Assistance	Technical	Global	yes	yes
	Advisory Services	Technical	Global	yes	yes
Canadian Commercial Corporation (CCC)					

SUMMARY OF EXPORT ASSISTANCE PROGRAMS AND SERVICES

<u>Dept./Ministry/ Agency</u>	<u>Program/Service</u>	<u>Type of Assistance</u>	<u>Market Served</u>	<u>Special Eligibility Criteria</u>	<u>Renewability of Assistance</u>
Federal Business Development Bank	Export Receivable Financing	Financial	Global	yes	yes
Canadian International Development Agency	1. Special Programs	Financial/Tech	Developing Countries	yes	no
	2. Business Co-operation	Financial/Tech	Developing Countries	yes	yes/no
	3. Bilateral	Financial/Tech	Developing	yes	no
	4. Multilateral	Financial/Tech	Developing	yes	no
External Affairs	Consulting & Technical Advice	Technical	Global	yes	yes
Department of Regional Industrial Expansion (DRIE)	Program for Export Market Development (PEMD)	Financial	Global	yes	yes
	Technical Assistance	Technical	Global	yes	yes
Export Development Corporation	Export Financing & Insurance Provisions	Financial	Global	yes	no

Note: For a detailed explanation of column categories, programs and services see Appendix IV.

The programs that provide loan assistance, with the exception of OIC and CIDA programs, normally determine an applicant's ability to repay the loan on the basis of a standard financial assessment of the value of assets such as inventory, plant and capital equipment. This tends to eliminate many service companies from consideration. In evaluating the ability of service sector companies to repay loans, program administrators need to be sensitive to the special nature of service companies' "assets".

All programs/services examined have some form of special eligibility criteria. Special criteria, of course, allow programs to focus assistance efforts at particular types of companies or markets in support of specific policy initiatives. In designing programs directed at service firms, the diverse nature of service exports may require specific programs focused on particular industries, in addition to those programs which are "global" in scope (e.g. open to all industry and sector groups).

With few exceptions, export assistance programs/services do not integrate or coordinate the services available from other government ministries or departments to the extent that the resources and/or delivery systems in one ministry complement the responsibilities in another. Cross-ministry programs should be developed and encouraged. Through this type of program, the potential exists to both expand the resources available for export assistance and to enhance the knowledge about client groups.

In general, programs/services are administered by export market. There does not appear to be a co-ordinated effort, however, among provincial ministries or among federal and provincial agencies. Existing export assistance programs provide support in all major markets with insufficient regard to whether these markets are also targeted by other export assistance programs.

One area where there is a real potential for improvement is in the development and dissemination of market research information on a market-by-market or industry-by-industry basis. Many service companies entering the export market for the first time have limited financial and human resources. These companies do not generally have the resources necessary to carry out strategic planning to assess country risk, market potential and customer demand.

CONCLUSIONS

Seventeen federal and provincial programs/services have been identified which, by definition, are open to service companies. It appears, however, that no coordinated effort has been undertaken to develop and design programs which specifically provide assistance to the service sector. A clear opportunity exists for government ministries and agencies to expand existing and future programs to address the service sector needs in a more targeted and comprehensive manner.

CHAPTER 4

A SUMMARY OF MAJOR FINDINGS

Many Ontario companies in fields such as consulting engineering, financial services, telecommunications, and computer services already have well established international reputations or are export-ready. Yet, the service sector remains under-represented in the client base of both federal and Ontario program delivery and international marketing offices. To date, there does not appear to be coordinated government effort to design specific programs that will assist service companies in expanding their export markets. Nor has the service sector been targeted as a growth area which warrants industry-specific export development programs and assistance.

The major findings of this study are itemized below by analytical objectives:

- I. Determine the major markets for Ontario service exports and identify other potential markets for Ontario services.
 1. The major markets for high value added, technology-based service exports are the U.S. and the OECD countries.
 2. Emerging markets for high value added, technology based services include the newly industrialized countries in South America and Asia. Potential markets include the Eastern Bloc nations and China. The major obstacle facing Ontario exporters in these markets is the incompatibility between eastern and western technologies.
 3. For traditionally traded consulting services such as Management Consulting and Engineering Services, existing and lucrative markets are the Middle East (although there has been a downturn in this area) and the developing nations. The Pacific Rim nations and China also hold some promise for these services.
 4. The main purchasers of Public Services will continue to be the developing nations.
- II. Identify major constraints facing service exporters in penetrating and capturing export markets.
 1. The single, most comprehensive constraint facing service exporters is the imposition of non-tariff

barriers to trade. Until some form of international agreement or understanding is arrived at, these barriers will continue to impede the expansion of services trade.

2. For high value-added information technology services the major constraints are the level of competition from other industrialized nations and the degree of technological compatibility.
3. In traditional service export categories the main constraint facing Ontario exporters is the relatively small size of service companies and their limited export development resources.
4. A major constraint facing all service exporters is their inability to finance the development phase of their export initiatives.

III. A comparative analysis of existing government export assistance programs with actual service exports to determine the fit between the two.

1. With the exception of the assistance provided by OIC no government programs are directed specifically at enhancing the export success of service firms.
2. The inherent nature of service companies is such that their financial capacity tends to be dependent on non-tangible assets. Eligibility for financial assistance is usually determined by traditional balance sheet criteria. With the increasing pace of technological change and higher levels of human resource development, the necessity of establishing criteria to evaluate "intellectual property" or "human capital" is of paramount importance.
3. The export success of service companies is largely dependent on their ability to establish and maintain a credible professional presence in its target markets. In most markets this takes a minimum of two years. In many cases it can take longer. Although many of the export assistance programs/services do allow applicants to re-apply, not one program offers a revolving line of assistance to help service companies defray long term market development costs.

IV. Identify the role federal and Ontario agencies play in promoting Ontario service exports.

1. The export assistance programs/services examined provide financial and technical aid to all exporters in traditional, potential and emerging markets. This assistance is primarily aimed at enhancing the export of resource and manufactured goods. With the exception of OIC, none of the programs examined or the administrators interviewed have earmarked services as a priority sector.

This paper, of necessity, offers only a cursory examination of service sector industries and relevant export assistance programs. Subsequent research will focus greater depth on service export market analysis, support program evaluation and recommendations for targeted program development.

MEDIA COVERAGE CATEGORIES

I. SERVICE SECTOR OVERVIEW

II. SERVICE SECTOR INDUSTRIES

CONSTRUCTION/ENGINEERING

- Architecture
- Building & Property Management
- Construction & Related Services (eg. testing services)
- Landscape Architecture
- Operations & Maintenance (eg. facilities management)
- Professional Planning
- Real Estate and Property Development

CULTURAL AND ENTERTAINMENT INDUSTRIES

- Arts and Culture
- Motion Picture, Audio and Video Productions and Distributions
- Sound Recording Services
- Theatrical and other Staged Entertainment Services

DISTRIBUTIVE TRADES

- Cooperatives
- Direct Sellers
- Middlemen and Marketing Boards
- Retail Trade
- Trading Houses
- Wholesale Trade

ENVIRONMENTAL SERVICES

- Collection, Analysis and Dissemination of Environmental Data
- Environmental Enhancement, Protection & Pollution Control
- Operation & Maintenance of Environmental Works
- Waste Management

FINANCE INDUSTRIES

- Banks (Schedule A and B)
- Credit Union
- Financial Conglomerates
- Financial Planners
- Insurance Companies
- Real Estate Brokers and Agencies
- Securities Traders and Exchanges
- Trust and Loan Companies
- Venture Capitalists

INFORMATICS

- Computer Services (eg. software development, consulting services, processing services, maintenance)
- Telecommunications services (broadcasters and carriers)
- Electronic Information Services
- Printing and Publishing Industries
- Surveying, Mapping and Geographic Information Systems

PERSONAL AND HOUSEHOLD SERVICES

- Funeral Services
- Laundry and Cleaning Services
- Personal Care Services
- Private Household Services
- Religious Membership Associations

PROFESSIONAL AND BUSINESS SERVICES

- Accounting and Bookkeeping Services
- Graphic Design and Related Services
- Industrial Designers
- Interior Designers
- Laboratory and Commercial Testing Services
- Legal Services
- Manufacturing Services
- Scientific, Technical and Related Services

PROFESSIONAL AND BUSINESS SERVICES (continued)

- Advertising and Related Industries
- Conference Services
- Credit Bureaus and Collection Agencies
- Customs Brokers
- Employment Agencies and Personnel Services
- Franchising
- Leasing Services
- Management Consultants
- Market Research and Public Relations
- Professional, Business and Labour Membership Organizations
- Security and Investigative Services

PUBLIC ADMINISTRATION

- Economic Services
- General Administrative Services
- Human Resource Administration
- Intergovernmental Affairs and Assistance
- Urban Planning and Management

PUBLIC SERVICES

- Energy Planning and Development
- Education and Training Services
- Health and Social Services, Agencies and Practitioners
- Labour, Employment and Immigration Services
- Libraries, Museums, and Archives
- Political and Civic Associations
- Protection Services
- Public Utilities (Electric, Gas and Water)

RESOURCE TECHNOLOGY SERVICES

- Services Incidental to Agriculture
- Services Incidental to Energy
- Services Incidental to Fisheries
- Services Incidental to Fisheries
- Services Incidental to Forestry
- Services Incidental to Mining

TOURISM INDUSTRIES

- Accommodation Service Industries
- Amusement and Recreational Industries
- Food and Beverage Service Industries
- Travel Services and Tour Operators

TRANSPORTATION INDUSTRIES

- Air Transport and Related Service Industries
- Rail Transport and Related Service Industries
- Road Transport and Related Service Industries
- Water Transport and Related Service Industries
- Courier Service
- Pipeline Transport Industries
- Public Passenger Transit Systems
- Storage and Warehousing Industries

SERVICE SECTOR SECRETARIAT
TRADEABLE SERVICES BY 1980 SIC CODE

Listing services by SIC code allows for easily recognizable, and standardized groupings. The listing below is intended to serve as a guide to services that are currently, or have the potential to be traded. It is not meant to provide an all inclusive or all encompassing examination of "tradeable" Canadian services, nor does it imply that all listings under a given two digit code will be "tradeable".

Note: In keeping with the work done on trade in services by the 1982 Federal Task Force on Trade in Services, tradeable services, as identified by the Secretariat, implies the ability to trade services across provincial and national borders. Trade occurs when domestic factors receive income from non-residents in exchange for their services.

For the purposes of this document, "trade" occurs in the following ways:

1. Ontario firms/individuals provide service at a distance, or on-site abroad;
2. Foreign firms/individuals come to Ontario service providers to access or secure specific services that have been marketed abroad.

Major Group Code

- | | |
|-----|---|
| 02 | SERVICES INCIDENTAL TO AGRICULTURE
e.g. Veterinary services; farm animal breeding services; livestock breeding (genetics) research; crop dusting and spraying services; soil testing services; horticulture research and information; harvesting, bailing and threshing services; agricultural management and consulting services; other agricultural research and information services. |
| 032 | SERVICES INCIDENTAL TO FISHING
e.g. Fish biology; breeding and propagating services; fishery consulting services; fishery research information services. |
| 05 | SERVICES INCIDENTAL TO FORESTRY
e.g. Reforestation services; forestfire fighting and other protection services; timber crop operations; nursery stock services. |

- 09 SERVICES INDUSTRIES INCIDENTAL TO MINERAL EXTRACTION
e.g. Contract drilling, oil, gas and mineral; mineral exploration and development services; well troubleshooting and firefighting services.
- 28 PRINTING, PUBLISHING & ALLIED INDUSTRIES
e.g. Commercial printing industries including electronic services; typesetting, photocomposition, platemaking and bindery industries; book, magazine, periodical, and music publishing industries.
- 40 BUILDING DEVELOPING AND GENERAL CONTRACTING
e.g. Activities of integrated real estate companies engaged in land assembly, development, financing, building and sale of large projects on community facilities. Establishments engaged in building under such arrangements as joint venture, design-build, turnkey, lease-back, and engineering/procure/construct.
- 41 INDUSTRIAL AND HEAVY (ENGINEERING) CONSTRUCTION
Industrial and heavy construction contractors engaged in the construction of projects other than buildings, e.g. industrial, telecommunications, power and other energy related structures, highways, water and sewer systems, having several components varying proportions of which may be sub-contracted to local trade contractors.
- 44 SERVICE INDUSTRIES INCIDENTAL TO CONSTRUCTION
e.g. Project management; construction management consultant services; construction administrator services; land developers.
- 45 TRANSPORTATION AND RELATED INDUSTRIES
e.g. Air cargo, express, freight, passenger, scheduled and non scheduled services; airport operations management; aircraft leasing; ground training services for air crews; rail express, freight, and passenger services; water transport and marine shipping services; ship chartering; harbour and port facility management; truck transport industries; urban rapid transit system management; charter and sightseeing bus services industry; freight forwarding industry.
- 48 COMMUNICATION INDUSTRIES
e.g. Telecommunications broadcasting and carrier industries (cable transmission services, satellite communication services, radio and television broadcasting services; studio services; production and direction services); courier services.

Major Group Code

- 499 OTHER UTILITY INDUSTRIES NES
e.g. Radioactive waste disposal services.
- 50-59, DISTRIBUTIVE SERVICE INDUSTRIES
69 e.g. Wholesale merchants, agents and brokers; direct sellers. Wholesale merchants include export and import merchants, mail order and direct mail houses and wholesalers, general wholesale distributors who buy and sell on their own account. Agents and brokers include those primarily engaged in buying and/or selling on a commission basis, products or services owned by others, including auction companies, import and export agents or brokers, manufacturers' agents, etc.
- 70, 71, FINANCE AND INSURANCE INDUSTRIES
72, 73, e.g. Chartered and other banking intermediary
74 activities such as lending and credit facilities, electronic funds transfer and transaction services; venture capital financing; merchant banking; export trade financing; lease financing; investment funds (estate, trust and agency) and services; insurance and underwriting services; securities underwriting, brokerage and trading.
- 77 BUSINESS SERVICE INDUSTRIES
e.g. Advertising and related services; management consultants; employment agencies and personnel consultants; architectural, design, engineering and other scientific and technical services (including urban planning, laboratory and commercial testing services); customs brokers and export management and consulting services; computer and related services (computer consulting services, computer software services and packages, systems analysis and design, data processing); accounting services; legal services; public relations; marketing research services; convention and meeting services; economic intelligence services, franchising, etc.
- 81, 82 GOVERNMENT SERVICE INDUSTRIES
83, 84 e.g. Administration, planning and consulting services (health, social service, civil protection, education, culture and recreation, transportation and communications, environment, resource conservation, industrial development, housing, regional planning and development, public works, research, etc.).

Major Group Code

- 85 EDUCATIONAL SERVICE INDUSTRIES
 e.g. Correspondence programs; private and public sector
 training and education; educational planning; library
 museum, and archive services, etc.
- 86 HEALTH AND SOCIAL SERVICE INDUSTRIES
 e.g. Diagnostics; private and public sector training;
 service delivery planning and consulting, etc.
- 91&92 TOURISM-RELATED SERVICE INDUSTRIES
 e.g. Accommodation, food and beverage service
 industries.
- 96 AMUSEMENT AND RECREATIONAL SERVICE INDUSTRIES
 e.g. Motion picture, video and sound recording
 production and distribution services; other amusement
 and recreational services (tourist attractions, etc.).
- 99 OTHER SERVICE INDUSTRIES
 e.g. Tour wholesaling, tour operating, travel services.

NOTE: The provision of goods and services is often closely connected. The GATT Secretariat categorizes the relationship of goods to services under four headings:

- 1. Services embodied in goods (e.g. computer tapes)
- 2. Services complementary to trade in goods (e.g.
shipping)
- 3. Services that substitute for trade in goods (e.g.
franchising)
- 4. Services that are traded without relationship to
goods (e.g. banking)

The close relationship between goods and services are recognized as are the statistical and definitional problems which arise when distinguishing the service component from the good component of various products and services.

PROGRAMS TO ASSIST EXPORTERS

The following definitions provide a general guide to terms used in Program Details.

- [1] EQUITY: Grants to, and equity positions taken in, companies involved in increasing exports from Canada or Ontario.

Loans: Any form of loan to assist exporters.

Technical Assistance: Assistance other than grants or loans designed to facilitate exports - this would include trade mission and trade fair organization, consulting services, etc.

- [2] MARKETS SERVED: For the purpose of this study, only international markets assisted by various programs have been considered. In many cases, a market breakdown is not available; in other cases, estimates made by program administrators have been used.

- A. United States
- B. Africa
- C. China, Asia, Pacific Rim
- D. Europe (EEC)
- E. Middle East
- F. Others
- G. Global

- [3] FUNDING PROVISIONS: In some instances, funding may not be used in conjunction with other programs (e.g. singular funding). The client may also have to demonstrate that all other sources of funding have been exhausted (e.g. last resort funding).

- [4] RENEWABILITY OF ASSISTANCE: Refers to whether assistance may be used for more than one transaction by the same company.

- [5] SPECIAL ELIGIBILITY CRITERIA: All programs require prospective recipients to be involved in export of goods and/or services with a significant percentage of Canadian (Ontario) content, and in the case of loans or grants, the financial stability and management expertise to carry out the project and repay any debt. A "yes" in this category would refer to requirements such as, that the exporter must be a small business, a service business, focus on a particular market, etc.

Program/Service: New Exporters To Border States (NEBS)

Program Delivery: U.S. Section, International Offices
Ontario Ministry of Industry, Trade and
Technology

Type of Assistance: NEBS is designed to offer technical assistance to clients who are potential exporters to the United States. The Ministry provides return transportation from the departure point and meals during working sessions. Accommodation and incidental expenses are paid directly by the participants. All arrangements, including accommodation, are handled by the Ministry.

Renewability of Assistance: This is a one-time opportunity.

Funding Provisions: The assistance may be used in conjunction with other programs.

Special Eligibility Criteria: Only firms based in Ontario are eligible. The firm must have been in business at least one year, have sales of at least \$100,000 annually and must manufacture a product or provide a service having at least 5% Ontario value-added.

Markets Served: NEBS deals solely with the United States.

Comments: The purpose of the program is to teach these clients the basics of exporting by offering on-the-spot presentations at a U.S. entry point. Included is information pertaining to marketing, financial considerations, government programs and services, distribution, customs and the selection of agents.

Program/Service: Consulting and Technical Advice on Trade and Investment Abroad

Program Delivery: International Offices
Ontario Ministry of Industry, Trade and Technology

Type of Assistance: The International Offices have been established to assist Ontario exporters to market their products and services internationally and to encourage foreign investment in the Province of Ontario. Assistance is mainly in the form of consultations to help:

- identify export market opportunities for Ontario goods, services and know-how
- identify qualified agents and distributors for Ontario exporters
- locate major foreign buyers for Ontario goods, services and know-how
- assist Ontario firms to participate in trade shows, exhibitions, missions and other events
- promote and encourage foreign investment and technology transfers
- identify sources of legal counsel and banking
- suggest good translators and interpreters
- intercede on behalf of exporters when problems such as determination of duties, taxes, or allocation of foreign exchange arise.

Activities are delivered in close co-operation with the International Marketing branch; appropriate branches of the industry division, including domestic offices; and with the federal trade commissioner service.

The International Offices are organized into three geographic groups corresponding to major markets:

<u>United States</u>	<u>Europe</u>	<u>Pacific Rim</u>
Atlanta	Frankfurt	Hong Kong
Boston	London	Singapore
Chicago	Paris	Tokyo
Dallas		* Nanjing
Los Angeles		** Seoul
New York		*** New Delhi

- * Science and Technology Centre and Trade Office
- ** Ontario representative at Canadian Embassy
- *** International Office to be opened in 1988

Renewability of Assistance: Client may continue to receive assistance from the International Offices for as long as it can be seen that the advice is beneficial and being acted upon.

Funding Provisions: There is no funding provided through the International Offices, but rather technical assistance that can be used in conjunction with other programs.

Special Eligibility Criteria: The client should be an Ontario-based operation (manufacturer/provider of services) or wanting to invest in Ontario (through joint ventures/licensing).

Markets Served: The International Offices serve the following markets: USA, China, the Pacific Rim, Europe, Latin America, the Middle East and the Caribbean.

Program/Service: Trade Expansion Fund (T.E.F.)

Program Delivery: Domestic Offices
Ontario Ministry of Industry, Trade and
Technology

Type of Assistance/Markets Served: This grant program offers financial assistance to Ontario manufacturers, trading houses, export marketing consortia, trade associations and companies offering tradeable services to develop new markets and increase exports. Out-of-pocket expenses are matched up to \$15,000 over any 12-month period to cover marketing costs.

The program is divided into two components: the T.E.F. Overseas, which offers marketing support to develop markets overseas, available to all Ontario firms; and the T.E.F. Northern Ontario, which offers marketing support for Northern Ontario firms only to develop markets in other parts of Canada (outside Northern Ontario) and the United States.

Both components of the program include an "Export Manager for Hire" section, which provides financial assistance for firms to employ a full-time export manager. A maximum of \$15,000 to cover 50% of an export manager's salary for one year is available. This is the only portion of the T.E.F. Overseas that assists the U.S.-export activities of (non-Northern) Ontario firms.

The program is divided into four other sections, each assisting different marketing needs.

1. Market Research and Planning for Export (maximum \$7,500);
2. Follow-up to On-Site Market Assessment (maximum \$15,000);
3. Product Modification and Package Design (maximum \$15,000); and,
4. Merchandising and Promotion (maximum \$15,000).

Renewability of Assistance: A company may apply for any part of the program at any time but may not receive program funding to repeat the same activity for the same market.

Funding Provisions: This program is a last resort funding program. However, the program will complement other government marketing support programs for specific marketing activities not eligible for assistance from these other sources.

Special Eligibility Criteria: Funds are available for new or expanded activity only, not for maintaining existing business. However, if an existing business has export sales to a specific market not exceeding \$100,000 or 5% of total annual sales, it may be eligible. A company must have been in business for one year, have minimum total sales of \$500,000 (\$100,000 for Northern firms applying under T.E.F. Northern Ontario) to a maximum of \$10 million, and employ no more than 100 persons. Individual corporate divisions are eligible if they are autonomous. Trading houses are eligible for support if accredited by the Council of Canadian Trading Houses. Export marketing consortia and associations conducting marketing activities for members are eligible if they are formally organized and have full-time staff. Subsidiaries of foreign companies are eligible if they meet the required criteria and have a product/service mandate for the export market.

(Note: In the case of Export Managers for Hire, the \$10 million maximum sales criterion is waived).

The product/service must be currently manufactured or in use and include at least 50 percent Ontario value-added.

Eligible applicants include:

- Manufacturers
- Trading Houses
- Export Marketing Consortia
- Trade Associations
- Tradeable Services:
 - Industrial and Heavy (Engineering)
 - Construction
 - Project Management for Construction
 - Transportation - truck transport, air transport, public passenger transit systems
 - Communications - telecommunications, broadcasting, carriers and other related industries.
 - Coldweather testing, mining, forestry.

Professional service organizations supported by OIC (i.e. consulting engineers, architects, contractors, management consultants, other specialized consultants) are not eligible for the T.E.F.

Comments: The program is a variation of the Export Success Fund but directed at non-U.S. markets. The T.E.F. started operations in April 1987.

Program/Service: Ontario International Marketing Intern Program

Program Delivery: Domestic Offices
Ontario Ministry of Industry, Trade and Technology

Type of Assistance: The International Marketing Intern Program was developed to give Ontario a broad base of young export-oriented marketing people to promote Ontario's products and services outside Canada. The Ontario government will pay 50 percent of an intern's salary, excluding commissions and other employment benefits, up to a maximum contribution of \$15,000 per year for a period of two years. Employers are reimbursed after 6, 12, 18 and 24 months of intern employment, upon presentation of an invoice.

Renewability of Assistance: Companies may reapply for funding under this program for additional intern candidates who meet the program qualifications.

Funding Provisions: The company receiving intern funding may not receive any other subsidy for the intern. If an intern's employment is terminated, the company may continue the program for the full two years of an existing contract if a replacement intern is found within a three-month period.

Special Eligibility Criteria: The company must have at least \$100,000 sales annually, have been in existence at least one year and have an exporting base in Ontario. The company must manufacture a product or provide services having at least 50 percent Ontario value-added and have the facilities and personnel to provide such a training program. The company must be able to provide employment beyond the two-year contract and the new position must be an addition to the existing workforce. The intern must be a resident Canadian citizen or a landed immigrant, have graduated within the last 24 months in a related discipline from a recognized university and have an arms-length relationship to the company, its owner and/or management.

Markets Served: Marketing interns may be hired under this program for positions in international marketing relative to all export markets. The training program must provide significant work experience in foreign markets, with a minimum of 10 percent of the two-year internship period involving work outside Canada.

Comments: The program is in its third year of operation as of 1987. Approximately 100 interns are funded by this program each year.

Program/Service: Export Support Program

Program Delivery: Ontario Development Corporation
Ontario Ministry of Industry, Trade and
Technology

Type of Assistance: This program offers a revolving line of credit at favourable interest rates (usually under the prime rate) for the financing of export receivables. Generally, the maximum term of each advance is up to 180 days from the date of shipment, but longer terms are available. Upon proof of shipment up to 90% of the invoice value may be advanced.

Individual loan transactions may not exceed \$1 million.

Renewability of Assistance: As long as the company maintains a good credit rating with ODC, they are eligible for further assistance. Financing is subject to annual review.

Funding Provisions: The funding can be used in conjunction with other government funding sources.

Applicants must have been declined by the chartered banks before ODC will consider them. They may also be required to demonstrate that funds are not available elsewhere on reasonable terms and conditions.

Special Eligibility Criteria: Applicants must provide proof that they have researched and explored export markets. Goods and services must have significant Ontario content and a satisfactory credit insurance is normally required. Companies must demonstrate financial stability and management expertise to carry out the project and repay the debt.

Markets Served: Ninety percent of the assistance provided by this program goes to companies exporting to the United States.

Total Budget: The budget varies according to demand. It is based on a revolving line of credit drawn from a pool of funds.

Comments: ODC financial assistance programs are directed towards secondary manufacturing, service industries who support manufacturing activity and tourist operations. Film distributors, store fixture suppliers, providers of pre-taped cassettes (literature), and automotive parts distribution firms are typical "service" companies that have received funding from ODC.

Program/Service: International Project Fund (IPF) and Other Technical Assistance

Program Delivery: Ontario International Corporation (OIC)
Ontario Ministry of Industry, Trade and Technology

Type of Assistance: The OIC was established to create and stimulate employment in Ontario and generate provincial revenue through increased exports. The Corporation assists both the private and public sectors to sell their services and capital goods in the world market. The OIC provides both financial and technical assistance.

1. Financial Assistance

Forgivable loans are available to Ontario-based companies through the International Project Fund. The loans are provided to assist companies in the preparation of project proposals, feasibility and pre-feasibility studies, or to cover costs incurred in arranging security or performance bonds for specific projects. The maximum loan available to any organization in a 12-month period is \$50,000. For any specific proposal, pre-feasibility study, etc. the loan is limited to the lesser of 50% of the cost incurred or \$50,000. The minimum application considered is \$2,500. Assistance is only available when assistance from PEMD is denied; a formal PEMD refusal is required.

Financial assistance is provided to companies seeking international service contracts primarily in the following categories: engineering, architecture, contracting, management consulting and specialist consulting. Assistance is also extended to a consortia of service and project equipment suppliers.

2. Technical Assistance

OIC offers its clients information on the economic/political climate, regulations, trade, contracts, etc. for specific markets. Assistance is also provided for preparation of brochures for consortia. In addition, the Corporation will assist with arrangements for visits to Ontario by foreign buyers interested in purchasing specific services from Ontario suppliers.

Special Eligibility Criteria: In general, applicants must have been Ontario-based for at least two years, must be committed to establishing an international presence, have recognized technical competence and the financial capacity to export.

Markets Served: South America, Central America and the Caribbean, United States, Southeast Asia, China, South Asia, Europe, Africa, and the Middle East.

Program/Service: Advisory Services

Program Delivery: Canadian Commercial Corporation (CCC)

Type of Assistance: The Canadian Commercial Corporation was established to assist in the development of trade between Canada and other nations. Specifically, it ties the requirements of foreign governments and international agencies to the supply capabilities of Canadian producers of goods and services, through government-to-government contracts.

In response to requests from Canadian suppliers and foreign governments or international agencies, CCC purchases goods and services from Canadian sources and sells them to customers abroad through back-to-back contracts.

CCC's services include:

- transmitting invitations to bid from client governments and agencies to Canadian suppliers (the source list maintained by the Department of Supply and Services and other departments are utilized for this purpose)
- evaluating the technical and financial feasibility of the product, service, or project package
- reviewing the technical and financial capability of suppliers
- analyzing risks
- arranging sole sourcing
- executing prime and back-to-back contracts
- following through on contract management, shipment, inspection, acceptance, and payment aspects of sales
- facilitating contacts at senior government levels in Canada and abroad.

Note: CCC does not conduct marketing programs, does not offer financing or insurance, and does not carry inventories.

Renewability of Assistance: Assistance may be used for more than one transaction by the same company.

Special Eligibility Criteria: Canadian suppliers must be certified by the Corporation to be financially and technically capable of conforming with bid specifications, contract terms and supplier warranties.

Markets Served: In 1986-87 about 80% of CCC sales went to the USA, and 20% to the Corporation's overseas customer countries (Europe, Asia/Pacific, Africa, Caribbean and Latin America).

Program/Service: Export Receivable Financing

Program Delivery: Federal Business Development Bank (FBDB)
Ministry of State for Small Business and
Tourism and the Minister for Regional
Industrial Expansion

Type of Assistance: This is a pilot program aimed at providing small and medium sized businesses with the means to obtain adequate financing for their exports receivables.

As this is a guarantee program, there is no direct funding to the applicant. Rather, all monies are disbursed by the lending institution with which the applicant maintains a banking relationship. FBDB provides a guarantee to financial institutions for lines of credit that they extend to businesses approved under the program. This guaranteed line of credit can cover from 60 to 90 percent of the value of the export receivables which are used as security.

Payment terms on the receivables are normally short-term. While terms of up to one year are acceptable, most transactions will stipulate payment terms within 180 days. There is no predetermined maximum guarantee per applicant; the level is determined case-by-case after assessment of the business.

Fees are negotiated with the applicant in advance and vary with the size and complexity of the transactions. Current charges are 1% annually based on the authorized amount and a 2% per annum charge based on usage.

Renewability of Assistance: Guarantees normally apply for a period of one year and are renewable. It is anticipated that after a 2 to 3 year period, the applicant will have established a sufficiently close relationship with the lending institution to continue to receive financial support on foreign receivables without the FBDB guarantee.

Funding Provisions: The assistance may be used in conjunction with other funding. The FBDB's role is a supplementary one in cases where adequate assistance is not available elsewhere on reasonable terms and conditions. Applicants are encouraged to approach their own lending institution prior to seeking a FBDB guarantee.

Special Eligibility Criteria: Of particular importance is the viability of the applicant company. There is no discrimination among applicants based on their sector of economic activity. During the pilot phase of the program all receivables must be

insured through the Export Development Corporation and, therefore, meet EDC's Canadian content requirement (currently at 60% Canadian content).

Markets Served: No restrictions inherent in the program. Current customers deal mainly within the EEC and with the American border states. The program is offered Canada-wide through five Regional Offices.

Total Budget: There is no upper limit to the program budget. The level of assistance guaranteed in any one year is dependent on the volume and level of program applications.

Comments: The Federal Business Development Bank is a Crown corporation existing to promote both the creation and development of businesses in Canada, particularly those which are small to medium-sized. In addition to the guarantee program outlined, the FBDB also offers term loans for a variety of purposes, management assistance through counselling and financial planning and a venture capital program designed to assist companies with high growth potential but limited access to capital markets. None of the Bank's programs distinguish between the manufacturing and service sector in assessing requests for assistance.

Programs/Service: The Canadian International Development Agency (CIDA) offers assistance under four program delivery areas:

1. Special Program Branch
2. Business Co-operation Branch
 - (a) Industrial Co-operation Program (INC)
 - (b) CIDA Awards Program
3. Bilateral Program
4. Multilateral Program

Program Delivery: Canadian International Development Agency (CIDA)
Secretary of State for External Affairs

Type of Assistance: CIDA offers financial aid (now in the form of grants only) to promote and increase the involvement of Canada's private sector in the economic, technical, social and educational expansion of developing countries.

1. Special Program Branch. The primary role of the Branch is to encourage and support the initiatives of the Canadian voluntary sector and non-profit institutions in international co-operation, and to foster partnerships with the developing world. It does so by tapping the creative resources of the non-governmental community and encouraging joint ventures and exchanges with their counterparts in the Third World.

2. Business Co-operation Branch

The Branch helps Canadian exporters to penetrate new markets in developing countries and supports Canadian firms seeking opportunities for investment, joint ventures and transfers of technology to these markets.

(a) The Industrial Co-operation Program, funded by CIDA, is designed for Canadian companies willing to investigate industrial co-operation opportunities in developing countries. Assistance is available for travel, project studies, demonstration test projects, market research, joint ventures and licensing to facilitate technology transfers, specialized training of local employees, investment missions to developing countries, professional services for tax and legal problems, and locating qualified Canadians to work abroad. Funds are provided to applicants who have identified specific business partners and are willing to put some capital into proceeding with the venture. Financial assistance is also available to help Canadian companies adapt and demonstrate their technology in a developing country.

- (b) The CIDA Awards Program offers up to \$15,000 per annum as a two-year scholarship for an individual (non-Ph.D.) seeking a career in international development work.

The award is to cover living expenses, project-related travel and research costs, and books and tuition fees. A review takes place at the end of the first year.

There is also a "Consultants and Industrial Relations Division" within the Business Co-operation Branch and a policy group.

3. The Bilateral Program develops and implements programs and projects that foster social and economic progress in developing countries that receive direct government-to-government aid from Canada.
4. The Multilateral Program manages Canada's relations with international development institutions of the Commonwealth and La Francophonie, as well as specified agencies of the U.N. and international development banks. It also co-ordinates humanitarian, refugee and emergency relief.

Renewability of Assistance:

1. The same activity is not renewable.
2. (a) Assistance is not renewable.
- (b) Assistance is not renewable but the individual can work through the modules or repeat a module in a different geographic location.
- 3./4. Bilateral and multilateral assistance is renewable.

Funding Provisions: All CIDA programs can be used in conjunction with other programs.

Special Eligibility Criteria:

1. Special Program Branch, Institutional Co-operation Program: eligible applicants are educational institutions, co-operatives, unions and other non-government groups.
2. (a) All Canadian companies and related associations are eligible for aid. Preference is given to small- and medium-sized companies.
- (b) Canadian citizens who have completed a post-secondary program of studies and have indicated their intention to pursue an active career in international development work.

3. In order for consulting firms to be eligible for contracts, they must be 51 percent Canadian-owned. In the case of contractors, the companies must have had a presence in Canada for a reasonable length of time and their head office must be located in Canada and have substantial autonomy in their operations. The company must demonstrate a willingness to form a consortium with a majority Canadian-owned group. Personnel assigned to a project should be Canadian citizens.
4. Governments, international organizations and banks.

Markets Served:

1. All developing countries.
2. (a) Africa, Latin America and the Caribbean, Asia, Middle East, Pacific Rim and China.
2. (b) Any developing country.
3. Africa, Latin America, Pacific Rim, Asia and China.
4. Areas served by international development institutions and the World Bank.

Total Budget: Total 1987/88 estimated budget for official development assistance is \$2.5 billion, of which CIDA will be allocated an estimated \$1.8 billion.

1. The Special Program Branch: 1986/87 budget is \$188.9 million.
2. The Business Co-operation Branch will have an estimated \$43.1 million budget for 1987/88, allocated in the following manner:
 - (a) the Industrial Co-operation Program will have about \$40 million; and
 - (b) the CIDA Awards Program will have part of the \$3.1 million remaining.
3. The Bilateral Program's estimated budget for 1987/88 is \$901.7 million.
4. The Multilateral Program's estimated budget for 1987/88 is \$188 million country-to-country, and \$519.2 million for international initiatives, for a total of \$709.2 million.

Comments: As the premier official aid agency in Canada, CIDA plays an important role in assisting Canadian export of services to the developing world.

Program/Service: Consulting and Technical Advice on Export Trade and Market Development

Program Delivery: Department of External Affairs Canada

Type of Assistance:

- 1) **Commercial Representation Abroad:** The commercial representatives (Trade Commissioners) primary role is to promote Canada's export trade and represent and protect the country's commercial interests abroad.

Services to exporters include the following:
 - identification of export opportunities
 - assessment of market competition
 - introduction to foreign business people and government officials
 - screening and recommending of agents and outlets
 - advice on terms of pay, claims assistance, and after sales service
 - assistance with tariff problems or difficulties with foreign import restrictions, including advice on labelling and marking regulations
 - market studies for publication
- 2) **Cost Recoverable Technical Assistance Program (CRTA):**
The purpose of this program is to facilitate export opportunities for Canadian technical goods and services (including capital projects) through government-to-government technical assistance projects, and through secondment of public sector expertise in support of private sector project initiatives.
 - . Canadian Companies: Government experts will assist Canadian companies in proposal preparation, and on project team participation when technical expertise is not available from the private sector.
 - . Foreign Governments: Upon request, the Canadian government will coordinate government-to-government technical assistance projects requiring public sector expertise and direction; oversee all aspects of project management (coordination, planning, procurement, sub-contracting) and secure access to Canadian technical goods and services.
- 3) **Export and Import Permits:** The Special Trade Relations Bureau conveys to exporters and importers the requirements of the Export and Import Act, reviews and approves (or denies) export or import permit applications and

establishes policy relating to the control of exports from and imports to Canada for national security, foreign policy, or supply reasons.

- 4) **Geographic Branches:** External Affairs has geographic branches for five regions of the world (Latin America and Caribbean, Europe, United States, Asia and Pacific, Africa and Middle East). Each of these branches is divided into separate export and investment promotion divisions.

The main function of the trade development divisions is to develop export markets for Canadian goods and services. The divisions carry out specific activities such as: organizing trade fairs, acting as liaison with financing institutions and making contacts for exporters. As well, they generally keep tabs on anything that affects trade, from formal agreements on tariffs and duties to informal arrangements on technical specifications and product inspections.

- 5) **Export Information Centre:** The Department of External Affairs' export trade information centre, Info Export, is an instant guide to all the export programs and services provided by the federal government. The Centre can provide business people with directives, information and assistance concerning international trade. Information is provided immediately or the enquirer is referred to the appropriate division (Toll-free hotline).

- 6) **Regional Trade Offices:** The Department of External Affairs has trade development officers in each of the 10 regional offices of the Department of Regional Industrial Expansion.

The Regional Trade Offices counsel exporters on export marketing, export pricing, financing, documentation, transportation, insurance, customs and tariffs, and relevant government assistance programs and services. The offices also assist exporters in acquiring market information on export opportunities from trade posts and other federal export agencies.

Renewability of Assistance: A client may continue to receive the above-mentioned assistance for as long as it can be seen that the service is beneficial and being acted upon.

Funding Provision: These are not funding programs; rather technical assistance is provided that can be used in conjunction with other programs.

Special Eligibility Criteria: None.

Markets Served: The five geographic regions of priority as outlined by External Affairs:

- Latin America and Caribbean
- Europe
- United States
- Asia and Pacific
- Africa and Middle East.

Program/Service: Program for Export Market Development
(PEMD)

Program Delivery: Department of Regional Industrial
Expansion

Type of Assistance: PEMD's primary aim is to increase the export marketing efforts of the private sector by helping them to participate in activities they would not, or could not, undertake alone. It also aims to increase the number of new Canadian exporters, to encourage existing exporters to move new products and services to world markets.

PEMD offers financial assistance to Canadian businesses that wish to participate in or undertake various types of international trade promotion and export activities. The program covers projects initiated by industry, as well as projects initiated by government that business participates in by invitation.

Government-Initiated Activities:

- trade missions outside of Canada, and for foreign business and officials coming to Canada or to trade shows where Canadian business participation is substantial
- trade fairs abroad in specific industrial sectors or for specific types of products

Industry-Initiated Activities:

- participation in recognized trade fairs outside Canada
- visits outside Canada to identify markets, and visits of foreign buyers to Canada or to another approved location
- project bidding, or proposal preparation, at the pre-contractual stage, for specific projects outside Canada involving international competition and formal bidding procedures (covers the supply of Canadian goods and services for major capital projects including consulting services, engineering, construction and equipment)
- the establishment of export consortia for companies that would be better able to exploit export opportunities by pooling their resources and sharing costs and risk with other companies

- the establishment of permanent sales offices abroad (excluding the U.S) in order to undertake sustained marketing efforts outside Canada
- special activities for non-profit food, agriculture, and fish organizations, marketing boards and agencies (for the benefit of their members) covering participation in trade fairs, visits, technical trials, product demonstrations, seminars and training, and commodity promotion.

Renewability of Assistance: A business may obtain four project approvals per government fiscal year to an overall maximum of \$500,000. If the company has received PEMD assistance in the past and has been consistently unsuccessful, it may be ineligible for further assistance.

Funding Provision: Participants in government-initiated trade fairs pay a participation fee. The assistance provided for PEMD industry-initiated activities is repayable if export sales result.

Special Eligibility Criteria: Specific eligibility criteria exist for each type of PEMD assistance, however, any established Canadian business that has considered exporting, or experienced exporter wants to explore a new market may be eligible for PEMD assistance.

Markets Served: All international export markets.

Program/Service: Export Financing and Insurance Provisions

Program Delivery: Export Development Corporation (EDC)

Type of Assistance: EDC provides insurance, guarantee and financing facilities, combined with advice and the organization of financial service packages, to foster and expand Canadian export trade.

Funds are provided directly to Canadian suppliers on behalf of the foreign borrower or by purchasing credit notes payable to Canadian suppliers, in effect, providing the exporters with cash sales.

The EDC only supports export sales of Canadian capital goods and services.

Renewability of Assistance: Export loans are a one-shot agreement negotiated between the lender (EDC) and a foreign borrower (either the buyer or the buyer's representative).

Funding Provisions:

- (a) Insurance: Canadian firms of any size can insure their export sales against non-payment by foreign buyers. EDC assumes 90% of the commercial and political risks, involving insolvency, default, or repudiation or cancellation of a contract by the buyer, as well as blockage of funds, war or rebellion, cancellation of import licences and the like in a foreign country, and cancellation of export permits in Canada.
- (b) Guarantees: EDC issues guarantees to banks making export loans or issuing performance and bid securities.
- (c) Export Financing: EDC provides export financing for up to 85% of the contract value, at both fixed and floating rates of interest, to foreign buyers of Canadian goods, equipment and services. Under the medium-term program, they can offer buyers repayment terms of up to 5 years.

Chartered banks work closely with the Export Development Corporation. Joint financing packages or complementary facilities can be arranged, or EDC guarantees may form part or all of the bank's security.

Special Eligibility Criteria:

The EDC will consider any transaction which, on its own merit, justifies financing for periods of two years or more and provides significant benefits to Canada.

Goods and services must contain a high Canadian material and labour content - not less than 60%. If Canadian content is below the level of 60%, the usual 90% cover may be reduced or the application may be declined.

Trading houses can be involved as a fourth participant in transactions. (EDC, the Canadian supplier, the foreign buyer and the trading house).

Total Budget: The EDC has a total budget of \$43 billion for financial liabilities. The maximum budget for insurance and guarantees funded from EDC is \$15 billion (plus \$7 billion from the Government of Canada. The maximum lending budget for goods and services funded from EDC is \$15 billion (plus \$6 billion from the Government of Canada).

CONSULTING ENGINEERING: INDUSTRY PROFILE

BACKGROUND

The Canadian consulting engineering industry is composed of professional engineers in private practice who provide a variety of services including:

- pre-feasibility and feasibility studies;
- planning and design development;
- detailed design;
- construction supervision;
- project management, including procurement and construction management; and
- turnkey/construction/design.

Consulting engineers work in a wide range of areas. Statistics Canada divides consulting engineering into the following twelve sectors: agriculture, fisheries, forestry, forest products; air and sea ports, harbours and terminals, postal works; bridges, tunnels, highways and railways; buildings; dams, irrigation and flood control; plant process design; mining and metallurgy; municipal services; petroleum and natural gas; power generation, transmission and distribution; telecommunications; and miscellaneous.

SIZE AND SCOPE:

In 1984, the industry in Canada generated \$2.1 billion in fees and employed 41,000 people in approximately 2,700 firms. The number of companies has increased by approximately 1,000 since 1980, when the total number of companies was 1,700. Of this total, Ontario had approximately 900 firms, employing about 15,000 people. The revenue of these Ontario companies amounted to \$725 million, of which \$105 million (or 15%) was from exports.

Company size ranges from "small" (those with fee revenues less than \$1 million and fewer than 20 employees), to "medium" (those with fee revenues of approximately \$10 million and 15 to 150 employees), and "large" (those with revenues in excess of \$10 million and over 150 employees). Almost one-quarter of the total fee income in this industry is generated by the "Big Three" - Lavalin, SNC and Monenco. These companies are all Quebec-based and do a considerable amount of business in the international market. Of the 30 other largest companies in Canada, 15 are Ontario-based.

TRENDS:

The performance of the consulting engineering industry is closely tied to fluctuations in the economy. The industry received a major shock in the 1982 recession and fees were estimated to have declined by 13 percent during the 1982-84 period. This resulted in reduced employment. Those most hurt by the recession were medium-sized and regional companies with fees in the \$1 to \$10-million range. Employment levels for consulting engineers went from 10,891 in 1983 to 8,301 in 1985.

Three consequences of the recession continue to have a direct impact on the consulting engineering industry:

- (1) the drop in international oil prices, which reduced both domestic and international energy projects;
- (2) government restraint, which reduced the number and scope of public sector capital projects;
- (3) a general drop in the level of private sector investment, which reduced the number of private sector projects.

The key to future growth in this sector will be a healthy domestic economy and increasing export sales. Technological growth is having an impact on the sector in the form of extensive use of computers for administration, engineering analysis and data manipulation.

EXPORTS:

With an export income of \$340 million in 1984, Canada is a major player in the world market for engineering services. Of this total, \$105 million in export income is attributable to Ontario firms. Canada's largest exporters in the industry were Quebec's "Big Three", which accounted for approximately half of all Canadian exports in this sector during 1984. Major exporters among Ontario companies include Acres International Limited, Golder Associates, Hatch Associates Limited, Kilborn Limited, Watts Griffis and McQuatt and the Cansult Group. Export billings accounted for approximately 40 to 50% of these firms' total billings.

In 1983, among the top 200 companies exporting consulting engineering services around the world, 13 companies were Canadian. Engineering News Record ranks Canada fourth behind American, British, and French companies in terms of export billings to developing countries. However, the volume of work done in the United States by Canadian companies is not included in this ranking; Canada's share of the U.S. market is believed to outstrip that of its European competitors.

Africa and the United States remain the largest markets for Canadian engineering services. However, over the past 12 years, the African market has grown considerably in size as has Canada's market share. The EEC, by contrast, accounts for only a relatively minor amount of Canadian business.

Among the 12 groups of consulting engineering activities identified by Statistics Canada, power generation, plant process design, agriculture/fisheries/forestry and mining/metallurgy accounted for 64 percent of total Canadian consulting engineering exports in 1984. This figure suggests that some diversification has taken place in the industry over the 1978-1984 period, as these same four sectors accounted for 71% of industry exports in 1978.

The Association of Consulting Engineers of Canada has suggested that a long-term shift from infrastructural projects to industrial sector projects may be underway as the pace of third world development picks up and local companies improve their ability to take on infrastructure work.

According to a 1985 report prepared by the Government of Canada, the future seems to offer the following challenges to the consulting engineering industry:

- **Increased competition in the export sector.** Competitors from the Newly Industrialized Countries (NIC's) such as South Korea, India, Brazil and the Philippines, are providing low-cost services in many, less technically advanced fields. In addition, there is increased pressure from world funding agencies to transfer higher percentages of work in underdeveloped countries to local firms.
- **Demand for new and innovative financing techniques.** With many developing countries facing severe foreign debt and exchange rate problems, the availability and type of financing that is currently open to developing countries is playing an increasingly critical role in obtaining consulting engineering contracts.
- **Potential growth areas.** Training, operation and maintenance and more complete construction-related services (i.e. turnkey) are important growth areas for Canadian firms.

EDUCATIONAL SERVICES: INDUSTRY PROFILE

BACKGROUND:

International trade in the education sector includes a broad array of both public and private educational services and programs. Education in its formal sense - the transfer of knowledge through structured and regulated programs - is only one of the many ways in which trade in educational services occurs. Other ways include the transfer of educational services through educational institution development, specialized training programs, curriculum development and training programs associated with capital projects and technology transfer.

It is important to consider industry cross-over when evaluating data on suppliers of educational and training programs. For example, engineering companies may offer training programs for foreign nationals as one aspect of infrastructure development, or health care experts may help devise educational training programs for government public service projects. Trade data may be found in engineering, health care, management consulting, or education categories.

SIZE AND SCOPE:

In 1983/84, the public education sector in Ontario employed more than 117,000 teachers in over 5,000 institutions. Full-time enrolment in Ontario primary and secondary schools exceeds 2 million. There are over 250,000 full-time students in universities and community colleges, and 650,000 part-time students.

The Ontario Government's 1986 report on the service sector assesses the performance of Ontario's educational sector in jurisdictions outside of Ontario on two levels:

1. enrolment of foreign students in Ontario institutions relative to enrolment of Ontario students in foreign institutions;
2. involvement of Ontario institutions in export activities.

Enrolment in Ontario's community colleges is primarily from Ontario. In 1984, 96% of community college students were from Ontario, 2% from the rest of Canada and 2% from other countries. In 1983, 86% of Ontario undergraduate students were from Ontario, 7% from the rest of Canada and 7% from other countries. At the graduate level, 70% were from Ontario, 4% from the rest of Canada and 16% from other countries. The

number of foreign students studying in Ontario schools dropped by 23% between 1983 and 1985. This drop is primarily attributed to higher tuition fees. Approximately 54% of Canada's and 62% of Ontario's foreign students are citizens of Asian countries, primarily Malaysia and Hong Kong.

The Ontario Ministry of Education's proposed budgetary expenditures for 1986/87 were \$3.5 billion, or approximately 11.5% of total proposed provincial expenditures. In 1984/85, the Ministry of Education's proposed expenditure represented roughly 11.2% of total provincial expenditures. The province of Ontario has the highest expenditures on education of any Canadian province.

The 1986 IMF Finance Statistics Yearbook records Canadian federal government expenditures on education and related activities in 1984 as \$7.8 billion, compared to \$4.5 billion in 1978. However, as a percentage of total government expenditure, the value has gradually decreased from a high of 8.8% in 1978 to 7.0% in 1984.

TRENDS:

Public education is largely an area of provincial jurisdiction, but the federal government is involved in various ways, from transfer payments and research grants to the issuances of student visas to foreigners who come to study in Canada. Private education remains largely outside of government regulatory control.

A key factor affecting education in developed countries is demographics. As the population ages, enrolments at all levels of education will be reduced. However, it is forecast that the demand for adult education will increase due to career changes, unemployment and technological change in the workplace. In developing countries the median age of the population is substantially lower than in developed countries. Demand for expertise in primary and secondary education, educator training, educational software and training associated with technological developments will remain high in developing country markets.

MARKETS:

Due to its proximity and size, the United States remains an important market for Ontario educational services. However, there is also a great deal of potential for trade with developing countries. Interviews with OIC officials indicate that Canadian, and in particular Ontarian, educational services are well-recognized internationally.

Special programs available from Ontario include the Ontario Educational Communications Authority (TV Ontario), the Ontario Institute for Studies in Education, and the Ontario Science Centre. In addition, the province has expertise in a wide range of highly specialized educational areas such as medical technology, agricultural and horticultural technology, and training of the physically and mentally handicapped.

The World Bank is estimated to have contributed over U.S.\$900 million in 1985 to educational projects in developing countries, or 6.4% of their entire lending budget. Over the same period CIDA disbursement for the education sector amounted to Cdn \$55.5 million, or roughly 4.1% of the World Bank total. It is also estimated that close to 80% of the external aid from U.N. agencies and individual countries goes for technical assistance, such as that provided by teachers, experts, and student fellowships.

Potential markets exist for the export of educational services to developing countries that are currently setting up or restructuring their education infrastructure, in particular, the African countries and the Pacific Rim area. Current trade focuses on technology transfer, turnkey projects, human resources training and development, and education support systems.

EXPORTS:

Ontario's educational institutions and related private sector organizations export a wide range of services based on the academic, training, and administrative expertise of Ontario institutions. In conjunction with CIDA, Canadian companies were involved in the export of educational products and services totalling in excess of \$55 million in 1985/86. However, as no central monitoring of foreign involvement exists, it remains difficult to quantify and evaluate the direction and scope of activities of Canadian firms, and the actual percentage of CIDA's contribution to total educational exports.

Examples of current non-tariff barriers affecting trade in educational services include:

- government restrictions on the sale of services delivered directly by foreign nationals;
- government procurement practices favouring local companies;
- restrictions on repatriation of profits;

- excessive duties and discriminatory customs valuation relating to education and equipment as well as education information materials;
- difficulties associated with visa requirements for technical and professional personnel.

HEALTH CARE SERVICES: INDUSTRY PROFILE

BACKGROUND:

The international health care services industry fills an important role in helping to meet the divergent health care needs of both developed and developing countries. Canadian hospital management and health care services actively complement both public and privately owned and operated hospitals and health care services in a wide range of countries.

Canada's health care system is well developed and its health care professionals, including hospital staff, educators and researchers compare favourably with any in the world. Innovators within the Canadian health care system have been a consistent source of important new product and service ideas internationally, with expertise in bioengineering, clinical engineering and rehabilitation.

Within Canada, interaction between researchers in the universities and hospitals and the business community is still underdeveloped. However, the degree of co-operation has improved markedly in recent years. Networks are being developed and maintained, and with respect to the commercialization of innovations, both sides are beginning to work together.

SIZE AND SCOPE:

Given the complex nature of the health care sector and the wide range of products and services classified as "health" related, a generally accepted definition is not readily available. According to the World Health Organization's guidelines, health care involves any output in which both the major intent and effect is to improve the quantity and/or quality of people's lives, and any output produced by a worker who is defined as a health care professional.

For the purposes of this profile, the definition developed by the 1986 Ontario study of the service sector will be used. The health care industry is involved in the provision of a diverse set of goods and services and is defined under the following categories: institutional health care services, professional practices, community health care services and other services.

According to the 1986 Ontario study, the Ontario health care sector employs approximately 228,683 people and accounts for 8.3% of total jobs in the province. The Ontario Ministry of Health's proposed budgetary expenditures for 1986/87 were \$9.9

billion, or approximately 32% of total proposed provincial expenditures. In 1984/85, the Ministry of Health's proposed expenditures represented 31% of total provincial expenditure.

For comparative purposes, the 1986 IMF Finance Statistics Yearbook states that Canadian health care expenditures as a percentage of total government expenditures have been decreasing slowly, from a high of 7.62% in 1978 to 6.34% in 1984. For developed countries as a whole, health care expenditures have increased slightly from 11.18% in 1978 to 11.53% in 1984. For developing countries, comparable statistics show a slight reduction from 4.36% in 1978 to 4.22% in 1984.

TRENDS:

A growth in demand for health care services in developed countries is forecast, linked to the increasing affluence of the population, the aging of the population, and technological change. Canada is well positioned to expand its market share in the provision of developed country health care services.

As identified in the Ontario government's 1986 study of the service sector, central issues involved in health care services trade include the following:

- competition between private and public health care providers;
- rights of establishment for foreign firms;
- immigration policies and the international movement of labour.

Public institutional health care services are government regulated and funded, notably by provincial governments. Private health care services may be subsidized by government and are also regulated by provincial governments and professional organizations. As the industry becomes more market-driven and profit-oriented, the regulatory framework may shift to accommodate industry changes.

Recent changes in the Canadian industry include the following:

- hospitals setting up their own companies to commercially develop home-grown technology and products (e.g. Toronto's Hospital for Sick Children);

- hospitals contracting with private health care companies to build and manage wings or even entire hospitals (i.e., chronic care facilities such as Toronto's Queensway General Hospital);
- hospitals expanding and opening pizza parlors, restaurants and stores.

The president of Extendicare Health Care, a private Ontario hospital management company, predicts that at least a dozen Canadian hospitals will shift to private management in the next few years.

MARKETS:

Due to its proximity and size, the United States remains an important market for Ontario health care services. However, there is also a great deal of potential for trade with developing countries. Interviews with OIC officials indicate that Canadian, and, in particular, Ontario, health care companies are well recognized internationally for their consulting services in the health care services industry.

Potential markets exist for the export of health care services to developing countries that are currently setting up or restructuring their health care infrastructure, in particular, the OPEC countries and the Pacific Rim area. Current trade focuses on technology transfer, turnkey projects, human resource training and development, and education support systems.

EXPORTS:

International trade in health care services takes place primarily through:

- construction, ownership and operation of facilities offering personal health care;
- purchase and subsequent operation of facilities offering personal health care;
- development and operation of health service facilities under contract to a foreign government, industrial organization or other sponsoring agency;
- provision of technical assistance or consulting services to a foreign government or purchaser in the planning, design or operation of a health care facility or service.

Given the public nature of the Canadian health care system as compared to the private, for-profit facilities operated in the United States, Canadian exports of health care services have fallen primarily within the last two of these four categories. However, current discussions on the privatization of certain health care sectors, and the growing number of private clinics and health care management companies within Canada, could alter the nature of health care services marketed internationally by Canadian firms.

MANAGEMENT CONSULTING: INDUSTRY PROFILE

BACKGROUND:

<u>Client Service Category*</u>	<u>% of Total</u>
General management, organization and planning	15.8
Data processing	48.2
Finance and control	7.2
Executive search	5.3
Personnel services	4.8
Economic studies and resource development	7.2
Operations management	7.5
Marketing	<u>4.0</u>
	100.0%

*Toward Freer International Trade in the Services of Management Consulting Firms", The Canadian Association of Management Consultants.

Statistics Canada defines "Offices of Management and Business Consultants" (1970 SIC 867) to include business consultants, efficiency experts, management consulting services, consulting economists, personnel management consultants, actuarial consultants, public relations counsellors and customs tariff specialists. There is general consistency between Statistics Canada and industry definitions of management consulting, although industry participants exclude customs tariff consultants and public relations counsellors from management consulting, while including some computer services and executive search activities which fall into other categories. This is relevant, because in preparing the background paper on management consulting for the "Ontario Study of the Service Sector", the Ministry of Treasury and Economics obtained special data from Statistics Canada dealing with Ontario employment in the SIC 867 category.

SIZE AND SCOPE:

Special data from Statistics Canada indicated Ontario employment in SIC 867 increased from 10,822 in 1978 to 15,090 in 1983. Representing an increase of 39%, this is substantially higher than the 5% recorded for the economy as a whole during this period.

The management consulting industry is composed of small and large companies with very few mid-sized firms. The large companies are often associated with public accounting companies such as Stevenson Kellogg, Ernst & Whinney, Woods Gordon, and The Coopers and Lybrand Consulting Group. These companies provide a wide variety of consulting services to large Canadian businesses and governments.

Smaller companies target a particular niche in servicing large businesses, such as some aspect of computer services, or they service smaller businesses. Small companies generally start as a single independent consultant who has often gained experience working for a large consulting firm. These companies seldom grow to employ more than 20 employees. It is a commonly held view that larger companies are better positioned than small companies to service export markets, but there seems to be no statistical evidence to support this conclusion.

MARKETS:

A member survey conducted by the Canadian Association of Management Consultants, composed of 22 of the largest consulting companies in Canada, determined that of the \$198 million in billings generated in 1984, approximately 4% (\$8 million) were foreign clients. Half of the foreign clients were from the United States, while the distribution of the other half encompassed several countries in Africa, the Caribbean, and the Far East.

The Association of Management Consultants extols the "world class" abilities of Canadian management consulting firms. Examples of foreign projects undertaken by Canadian companies include a feasibility study for Hovermarine Services Ltd. (a hovercraft service) of Trinidad and Tobago, an organizational review for East African Power and Lighting Co. (which generates power for the whole of Kenya), and an EDP study for the government of Zimbabwe.

EXPORTS:

Statistics on exports of management consulting services, like statistics on the service sector as a whole, are relatively scarce and of limited value. Statistics Canada lumps exports in

management consulting with such other "consulting services" as engineering, architecture, law, accounting, taxation consulting, drilling and development of natural resources. These figures are clearly of limited assistance in interpreting the size of Canadian exports in the management consulting area.

The figure of 4% export billings for 1984 cited by the Association of Management Consultants was down significantly from 9% recorded for the years 1976-78. A number of different reasons have been cited for the limited volume of Canadian exports in the industry.

The first is the relatively restrictive U.S. immigration rules. These rules make it very difficult for U.S. companies to use Canadian consultants, unless it can be clearly shown that the Canadian consultant has an expertise unavailable in the United States or that the expertise is in short supply. Then, even if it is possible for a Canadian consultant to obtain a work permit, it takes a minimum of two months, but typically longer. This puts Canadian companies at a competitive disadvantage.

A second reason cited to explain the limited exports of consultants' services, particularly to OECD countries, is the fact that these countries are already served by well established international companies and it is difficult for Canadian companies to overcome their lack of an international reputation.

A final difficulty is that since many large Canadian management consulting companies are associated with U.S. companies through their audit partners, many of these companies refer business in the United States to associated U.S. consulting companies in return for reciprocal referrals. These referrals practices tend to reduce possible exports of Canadian consulting services.

SCIENTIFIC AND TECHNICAL SERVICES: INDUSTRY PROFILE

BACKGROUND:

A high technology industry is characterized by the fact that its main asset is knowledge. It is an industry which is dependent upon the knowledge base collectively possessed by the highly skilled people who work in it.

Technology can be transferred or traded through the export of goods, licensing and other agreements, direct investment, fee information transfer, joint ventures, and consultant/contract services. High technology commodities have been defined as products receiving above-average levels of research and development (R&D).

SIZE AND SCOPE:

It is very difficult to establish a clear definition of scientific and technical services that is accepted internationally and that can be used to quantify international trade.

Statistics Canada defines science and technology indicators as statistics that measure quantifiable aspects of the creation, dissemination and application of science and technology. Current indicators used to measure national scientific and technological activity include expenditures on R&D, federal government scientific activities, personnel working in science and technology, Canadian research output, Canadian patented inventions, international payments and receipts for technology and trade in selected commodities.

The set of international payments and receipts for technology is a statistical grouping of the financial transactions made by a country for the purchase and sale of technological know-how and information. The transactions monitor the international flow of information as represented by the payments and receipts recorded for intellectual services (covering management, professional, administrative, consulting, engineering and scientific services, and research and development) and licences for technological property (covering patents, techniques, processes, formulae and designs).

The Science Council of Canada (SCC) advocates that the research and development performance of a country will be determined by the extent to which a country depends on value-added exports. It is the view of the SCC that Canada's dependency on low value-added exports and on branch plants for import substitution is preventing Canadian research and development from reaching its potential.

A 1986 Statistics Canada survey indicates that in 1984, Ontario had the largest number of scientists, engineers and technologists in Canada, 401,000 or 38% of the Canadian total. This had decreased slightly from 403,000 in 1982, or 39% of the Canadian total. In 1981, Canadian expenditures on R&D, U.S.\$3.9 billion, represented 3% of total OECD expenditures on R&D.

TRENDS:

A 1987 report by the Canadian Advanced Technology Association has stated that Canada needs to shift its current investment patterns and technical expertise from a resource focus to a more high-value base. Resource-related technologies are by far the most prevalent exports, while the resource-based industries are stagnating worldwide.

By contrast, a large portion of the new advanced technologies in this country are imported, leading some experts to fear Canada could become technologically dependent on foreign countries by the year 2000. The study found that Canada has half the amount of research and development of most industrialized countries. Few Canadian corporations have employees able to perform R&D. In Ontario, it is estimated that 70% of manufacturers have no in-house engineering or scientific staff.

MARKETS:

According to Statistics Canada, most of Canada's transfers of technology occur between U.S. parent companies and their Canadian subsidiaries. However, a considerable amount of technology transfer, through the provision of technical and scientific knowledge, is provided by Canadian companies to developing countries. Quantitative information, however, is usually collected on a project basis and is highly disaggregated (i.e. consulting engineers, technicians, etc.), making it difficult to generalize as to current and potential markets.

EXPORTS:

A 1983 Economic Council of Canada study found a positive correlation between R&D expenditures and export propensity. However, this data was collected for a limited industry group and should be interpreted with caution.

Based on the OECD's list of highly R&D-intensive products manufactured for export, Canada ranked lowest at 12% among OECD countries. (The United States ranked the highest at 30%.) In 1983, the United States, Japan and Germany accounted for 58% of OECD exports of highly R&D intensive products. Over the same period, Canada's share was 4%. Statistics show that Canada is a

substantial net importer of high-technology products. Statistics also show, however, that exports have been growing faster than imports for most of the high-technology products examined.

In 1983 Canada had the lowest export/import ratio for highly R&D intensive products of all OECD countries studied (Canada's ratio was .61, compared to 1.5 for the United States). This is due to both low exports and high imports of R&D-intensive products.

Examples of non-tariff barriers affecting scientific and technical services include:

- the use of discriminatory taxes and tariffs that favour local firms;
- government procurement practices favoring local companies;
- procurement practices associated with vertical industry integration;
- government actions to ensure cultural and scientific integrity.

SOFTWARE TECHNOLOGY: INDUSTRY PROFILE

BACKGROUND:

The Ontario software industry is highly fragmented: a large number of small companies operate in a wide range of industries. According to the Ontario Software Development Association, many of the over 500 software development companies in Ontario are one-person operations. Since these companies often tailor software development to their clients' specifications, their products will vary depending on the needs of the customer. Industry fragmentation is rooted in two major causes: negligible barriers to entering the industry, since start-up capital requirements are low; and increasing customer demand for highly diverse, customized products and services.

Since company size tends to be small, it is difficult for economies of scale to come into play. As a result, Ontario companies may have problems exploring and capturing export market opportunities. A general lack of management expertise and difficulties in obtaining financing are also disadvantages hindering both product development and marketing initiatives. On the other hand, the positive aspect of small company size includes ease and flexibility in responding to rapid product changes brought about by new technology.

SIZE AND SCOPE:

In 1985, the Canadian software industry was comprised of approximately 2,200 companies employing over 28,000 people. Software revenues amounted to \$753 million in 1984, or 0.17% of GDP. This represented a 37% increase over 1983 revenues. Total software revenues for 1985 are estimated at \$1.23 billion, or 47% of the \$2.62 billion total revenue forecast for 1987. The revenues forecast for 1987 represent approximately 0.49% of the estimated 1987 GDP. Though this is still a very small percentage of GDP, the forecast rate of growth for software revenues - an annual rate of 19% - is over three times the forecast growth rate for GDP (6.2%). Similar forecasts of revenue growth have been made in the United States, where on average revenues have been growing by 20% (1986 CADAPSO report).

Until 1983 hardware manufacturers, the majority of them U.S.-owned, dominated the Canadian software industry. IBM continues to account for about 30% of the software market. The largest Ontario companies are Computech and Systemhouse.

World markets for software have been growing nearly 30% each year. By 1987, world markets are expected to generate revenues of \$55 billion. Canada's share of these revenues, as a percentage of the total world market, is estimated to be 4.8%.

TRENDS:

Many small Canadian companies are tackling specific market niches broadly identified as banking, real estate, services to business management, health services, gas and oil, transportation, mining and primary metals, and forestry/pulp and paper.

This degree of specialization could prove increasingly difficult to maintain, due to the growth in generic hardware and general product standardization. Many businesses are moving away from customized packages and are opting for "packaged" software programs.

To succeed in the future, Canadian software companies will have to expand their export markets. However, in order to enhance export opportunities and promote industry technological growth and expansion, there is a general need for better co-operation between government, academic institutions and private industry.

Given that no international guidelines exist on trade in software technology, and that existing tariffs deal specifically with the physical good, not the value-added knowledge backing its production, barriers to trade in software and software technology are increasing at a rapid rate.

In the development of software, contact is often necessary between developer and client, and customer hardware must often be shipped back to the developer to ensure that programs are operating effectively. This has led to serious problems for Canadian companies at U.S. customs points. Software companies have been forced to pay substantial duty charges on hardware they have imported on a temporary basis only for servicing; they have been charged as if importing a new product they intend to keep. Although these charges can often be recovered through a remission process, many small companies do not have the excess capital available to pursue this process. In addition, no consistent standards are applied across customs points.

MARKETS:

Due to proximity, size and ease of entry, the United States is the primary market for Canadian software producers. The U.S. market for software is roughly equivalent to 17 Canadian domestic markets. The market in California alone is larger than Canada's. The incompatibility of much of the hardware used elsewhere in the world with North American standards may serve to restrict software exports to U.S. markets and hinder offshore export development.

Overseas markets are often fragmented and are based on local products that are not compatible with North American software. The lag time between software development and export capability can be two to three years. Therefore, Canadian companies are often wary about making the time and financial commitments required to secure overseas market opportunities.

Over the past several years, however, Canadian companies have been exploring potential markets outside the United States. Primary targets include Britain, the newly industrialized countries of the Pacific Rim and the People's Republic of China. According to a 1986 Institute for Research on Public Policy study, educational and training software packages have significant export potential in the Pacific Rim countries.

EXPORTS:

Given that software can be exported in several ways and be associated with a broad range of industries, reliable information on software exports is difficult to obtain. Software can be embedded in equipment, or can be exported through licensing agreements, through direct sales, through management, consulting, or maintenance agreements, through service contracts, through direct foreign investment, or other arrangements (see categorization).

DRIE has estimated that in 1980 Canadian software exports amounted to \$35 million, or 7.6% of total software revenues. This contrasts with software imports exceeding \$900 million (approximately \$570 million for imports of bundled software and \$330 million for imported packages). The resulting net trade imbalance for software and computer services was over \$850 million for 1980, and it is estimated that this imbalance has grown annually by 20-30%. A Touche Ross study supports the DRIE estimate and states that Canadian software exports offshore accounted for less than 8% of the industry's total revenues in 1982.

Currently, approximately 80% of Canadian software exports are to the United States. Only large companies currently have significant software exports to non-U.S. areas. These companies also dominate the U.S. market for software exports.

International Data Corporation has stated that Canada, led by Ontario, has the potential to become one of the top five suppliers of software in the world by becoming a kind of "Silicon Valley" north. Given that software is an intellectual property, and that its evolution and development is led by an environment that fosters an "intellectual cluster", southern Ontario, with its large number of technical schools and universities, serves as a likely location for increasing software development.

Examples of other non-tariff barriers affecting trade in software and related technology include:

- a Brazilian ban on all imports of software;
- a discriminating set of taxes and tariffs favouring local firms;
- restrictions on the provision of enhanced services by foreign companies;
- government procurement practices favouring local companies;.
- calculation of customs value of computer software programs to include the value of the program itself rather than just the value of the media bearing the program;
- government actions to ensure cultural and scientific integrity;
- restrictions on the import of equipment, spare parts or software;
- potential for an increase in software liability cases.

TELECOMMUNICATIONS: INDUSTRY PROFILE

BACKGROUND:

The telecommunications industry involves a number of interrelated activities within a series of broad markets. The major industrial activities include research and development, manufacturing and servicing. The provision of telecommunications services requires that the media of transmission - including station equipment, local distribution facilities, transmission or long-haul facilities, and switching facilities - be kept operational. The outputs of the industry can be classified according to the mode by which the information is conveyed - telephone, telegraph, data or video.

Traditionally, Canadian telecommunications carriers have been the decision-makers in terms of the choice of facilities and equipment for the entire telecommunications industry. However, liberalization of terminal interconnection policies at the federal level has resulted in an increase in the number of private networks and new, enhanced or value-added services from non-traditional suppliers of telecommunications services.

SIZE AND SCOPE:

Substantial problems exist in attempting to establish a clear picture of the definitive parts of the telecommunications industry. The rapid pace of technological change is blurring the distinction among telecommunications, broadcasting, and computing and data processing services. A recent OECD study states that the dominant new technological paradigm is associated with the combination of microelectronics, computers, telecommunications and information technologies.

For the purposes of this profile and as a general guide, the industry will be discussed in terms of three broad segments: basic telecommunications services (1980 SIC 482), enhanced services and broadcasting, and cable television services (1980 SIC 481).

It should be noted, however, that there is no accepted definition used consistently across international borders. In 1980, the U.S. Federal Communications Commission developed a set of definitions for enhanced and basic telecommunications that have been adopted, in part, by Canada.

Basic Telecommunications Services - essentially telephones, telegraph, satellite transmission - are defined by the CRTC as those services which offer transmission capacity for the movement of voice, data and video information, where the service consists of providing the "communications path" for information. The major telecommunications carriers are the telephone companies, Telesat Canada, CNCP Telecommunications, and Teleglobe Canada.

Generally, the largest telephone company in each province, plus Telesat Canada, are affiliated in an unincorporated association known as Telecom Canada to provide national telecommunications services. In addition to the Telcom Canada member companies, there are over 106 other, generally smaller, telephone systems. Currently, 14 telephone systems account for 98% of the telephone activity in Canada. Within Ontario there are over 30 telephone systems. Bell Canada, however, operates more than 95% of the access lines in the province.

Operating revenues for telephone systems in Canada were approximately \$7.7 billion in 1982 and increased to \$10.1 billion in 1985. Over the same period, operating revenues for telephone systems in Ontario have increased from \$2.8 billion in 1982 to \$3.6 billion in 1985, or roughly 35% of total Canadian revenues. (These figures are estimates, since Statistics Canada records revenues for Bell Canada, which operates in Ontario, Quebec and the Northwest Territories, strictly as revenue for the province of Quebec.)

According to a 1986 study prepared for the Ontario Ministry of Transportation and Communication (MTC), employment in the Ontario telecommunications sector rose by 30.9% between 1975 and 1981, from 35,000 to 45,800. This was followed by a decline of 8.1% over the next three years, with employment recorded at 42,100 in 1984. Employment is expected to grow slowly over the next few years, reaching 44,000 in 1990. This pattern closely follows that of the national statistics.

Enhanced Telecommunications - involves offering any service beyond the basic service of a communications path - for example, computer processing, voice messaging, data base retrieval and electronic mail. In Canada, enhanced telecommunications is generally not regulated by the CRTC. However, safeguards have been instituted to ensure that telephone monopolies do not use their monopoly position in basic services to compete unfairly with enhanced services. (Difficulties exist in collecting data on revenue and employment because of the broad cross-section of industry groups that provide and use enhanced telecommunications services.)

There are more than 200 radio common carriers and their combined annual revenues are estimated to be over \$150 million. They provide various mobile-radio and radio-paging services across the country, primarily in urban areas, in competition with telephone companies. According to the Ontario government's 1986 study of the service sector, operating revenues in 1982 for telegraph and other non-telephone systems were \$536.3 million. (Data has not been broken down by province.)

Cable Television Systems - In 1983, the approximately 500 Canadian cable systems had total operating revenues of \$535 million. The 1986 Ontario study estimates that the total operating revenues of provincial cable systems increased by 50% between 1979 and 1983, from \$127.4 million to \$191.7 million, or 36% of the Canadian total. Although the main business of these companies is the distribution of television and radio programming, they are also beginning to compete with telecommunications common carriers, to a very limited extent, in providing special services such as the monitoring of fire and burglar alarms.

The current world market in telecommunications was estimated at about U.S.\$45 billion in 1984, and is expected to reach \$60 billion in 1987 and \$90 billion in 1990. The Canadian industry's share represents approximately 16% of the world market.

TRENDS:

General - Currently, world-wide trends in the telematics industry indicate a general shift towards privatization and deregulation of the industry. The U.S. divestiture of AT&T, the British sale of 49% of the national telecommunications agency, and the Japanese telecommunication industry's deregulation have all combined to create a changing international, regulatory, and competitive environment.

Issues of liability, copyright, computer crime, privacy, export controls, storage, duplication, and instantaneous transmission highlight the need for a common understanding between countries on trade in telecommunications services.

Trends in the telecommunications sector identified by the Ontario Task Force on Employment and New Technologies include the following: private automated branch exchanges, electronic mail, voice mail, facsimile links, dedicated satellite or microwave systems, video conferencing, fibre optics, and dedicated head office/plant or head office/customer computer linkages.

The institutional framework of the Canadian telecommunications industry is a complex mixture of federal and provincial legislation, policies and regulations. Whereas in many other countries the postal, telephone and telegraph organizations are state-controlled, the Canadian telecommunications industry consists of a mixture of private, governmental and joint private-governmental corporations and organizations. Each of these is generally regulated by a single federal or provincial agency, while the enhanced telecommunications sector remains relatively free of government regulation.

Transborder Data Flows - Increasing international trade, the growth of foreign direct investment and multi-national company activity, the more cost-effective use of computers and communications within organizations continue to highlight the international importance of transborder data flows (TBDFs), the flow of computerized data across international borders. It is estimated that 80 to 90% of Canadian TBDF results from intracorporate data communications, while the remaining 10 to 20% is accounted for by intercorporate data communications.

According to a 1987 study prepared for the MTC, the main users of TBDF in Ontario are service companies: air transporters, banks, credit card and insurance companies, trading companies and data distributors.

The following examples illustrate current directions in the telecommunications sector:

- J.C. Penny now processes credit card transactions for several major oil companies as a way of maximizing its investment in its information network.
- American Hospital Supplies (AHS) has set up computer links to its customers and suppliers so that hospitals can now enter orders themselves via AHS terminals. This technology allows the company to cut inventories, improve customer service and get better terms from suppliers for higher volume.
- American Airlines' Sabre reservation system lists the flight schedules of every major airline in the world and is used by almost 50% of the automated travel agencies in the United States.

MARKETS:

Due to proximity and relative ease of entry, the United States remains Canada's largest market for trade in telecommunications services. Nevertheless, regulatory constraints continue to restrict the free flow of trade in this sector.

Recent surveys in five developing countries in Africa, Asia and Latin America indicate that government and business account for about 52% of telephone lines and 75% of telephone revenues. The survey found evidence that the lack or inadequacy of telecommunications services contributed to significant losses in productivity and efficiency in the following sectors: agriculture, transportation, commerce, banking, government, tourism.

Canada is well-recognized internationally for its consulting services in the telecommunications field. Therefore, a potential market exists for the export of telecommunications services to developing countries that are currently setting up or restructuring their telecommunications infrastructure.

EXPORTS:

A 1984 Price Waterhouse study has stated that "the pick-up and delivery of messages, whether on paper or through telecommunications circuits, is an inherently local activity". Although no reliable statistics have been collected and current trade activity is very small, the expansion of "international bypass" is a possibility. Canadian carriers can be bypassed by foreign telecommunications facilities directed to points in Canada, the United States, and overseas.

As noted in a 1986 study prepared for the MTC, changes in the U.S. telecommunications industry have created incentives to extend the resale of U.S. telecommunications services into foreign markets and particularly into the Canadian market. In interviews, major Canadian telecommunications carriers have expressed concern over the possibility of U.S. competition in long distance and telex services. Certain telecommunications rates, particularly long distance rates, are much lower in the United States than in Canada. Rate rebalancing to achieve competitiveness would require federal government approval.

Export opportunities exist for Ontario companies in the unregulated, enhanced area. Smaller firms, which often lack the skill, knowledge and expertise necessary to develop long-range export strategies, should be identified and assisted in entering the export market.

Barriers to trade in these information services, however, are mounting. Many countries in recent years have grown uneasy over the amount of information transmitted out of their countries by governments and multi-national corporations. This uneasiness is a factor underlying the move by several national governments to restrict the kind of information that can be sent, processed, or stored abroad. Legislation containing transborder data flow constraints already exists in Australia, Austria, Brazil, Denmark, Canada (1980 Bank Act), Finland, France, West Germany, Japan, Luxemburg, Mexico, Norway, Singapore and Sweden. This type of legislation is increasing at a daily rate, and is already proving to be a substantial barrier to international trade.

Examples of current non-tariff barriers affecting the telecommunications industry include the following:

- discriminatory taxes and tariffs favouring local firms;
- restrictions on the provision of enhanced services by foreign companies;
- government procurement practices favouring local companies;
- procurement practices associated with vertical industry integration;
- government actions to ensure cultural and scientific integrity;
- restrictions on the import of equipment, spare parts, or software;
- privacy protection laws governing the collection, storage and international transmission of personal data;
- restrictions on modes of transmission;
- restrictions on the content of transborder data flows;
- privacy and data protection laws.

APPENDIX V

BUSINESS SERVICE DEFINITIONS¹

Advertising and Promotional Services: covers advertising in newspapers, journals, radio, television and other media, participation in trade fairs and cost of sales promotion. In addition, advertising services include the expenses in Canada of representative offices of foreign banks.

Auto Charges: covers fees paid or received by automotive companies for charges such as retooling, warranty and other charges.

Commissions: covers commissions earned by wholesale merchants, agents, brokers and manufacturers sales branches and other types of commercial commissions. Fees & commissions on transactions in outstanding securities are excluded.

Communications: includes telephone, telegraph, telex, data transmission, courier and postal transactions.

Computer Services: covers advisory services, use of computer facilities, purchase and emment of software, systems design, installation, testing, debugging, ongoing maintenance, documentation charges and training.

Consulting/Other: covers services in areas such as engineering, architecture, law, accounting, marketing, planning, taxation, finance, drilling and development of natural resources.

Equipment Rentals: covers rentals of machinery, drilling rigs and supply vessels, tools, vehicles, aircraft, computers and other equipment.

Films and Broadcasting (F&B): covers services purchased or sold by private and public radio and television stations, and the distribution of motion picture films.

¹Note: Although only 14 definitions are provides, 16 business service categories are identified by Statistics Canada. The areas not defined and/or not shown on the charts include: Other and Refining and Processing Services (no payments have been recorded for the latter category).

Franchises and Similar Rights: covers contractual privileges granted by an individual or corporation, permitting the sale of a product, use of a trade name or provision of a service within a specified territory and, or in, a specified manner. Note: export figures for 1985 were not available.

Financial Services-Insurance: covers insurance and or reinsurance premium income received from non-resident individuals and or corporations, and premiums paid directly to non-resident insurers for all types of risks. The category also covers claims received from non-residents by Canadian companies, pursuant to any insurance contract entered directly between the parties concerned.

Management & Admin.: covers charges for managerial and administrative services rendered by an individual or corporation.

Research and Development (R&D): covers charges related to systematic investigations by means of experiments or analysis to achieve a scientific or commercial advance for or through the creation of new or significantly improved products or processes.

Royalties, patents and trademarks (RPT): covers charges related to exclusive resource rights, rights to produce and sell commodities with one or more unique features, the use of an original literary, artistic, dramatic or musical work and of any distinctive commercial mark secured by legal registration.

Transportation Related Services: covers mainly expenditures by airline companies related to the provision of transportations services. Airline fares are included in the travel account while transportations of commodities is included in freight and shipping.

Source: Statistics Canada 67-510

